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Affective Responses to Television Newscasts: Have You Heard the News?

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AFFECTIVE RESPONSES TO TELEVISION NEWSCASTS: HAVE YOU HEARD THE NEWS?

by

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AFFECTIVE RESPONSES TO TELEVISION NEWSCASTS: HAVE YOU HEARD THE NEWS?

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This study examined the impact of television news viewing on affective responses in viewers. Participants watched a 10-minute newscast that contained only negative, only positive, or both negative and positive news stories at either 8:00 a.m. or 6:00 p.m. Negative news viewers showed elevations in anxiety and negative affect, while positive news viewers showed decreases in anxiety and negative affect. Watching a combined newscast resulted in no mood changes. Affective changes caused by watching the news were not maintained 3 hours after viewing, and morning versus evening viewing had no impact on mood responses to that news. While news content did not impact the ability to remember news, it did influence participants' impressions of the newscaster, such that those who saw negative news rated the newscaster much less favorably than did those who saw positive news. Results suggest that watching bad news causes short-term elevations in anxiety and negative affect, while watching good news has the opposite effect. The inclusion of positive news along with negative news appears to wash out these mood effects. Implications for television news viewers and TV news organizations are discussed.

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Jessica Purtan Harrell

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CHAPTER I

LITERATURE REVIEW

With the introduction of the television set into American society in the 1950s came significant changes in the behavior of Americans, as time that was once allocated to other activities quickly became filled with television viewing. The appeal of television transcended age, sex, and educational differences. TV quickly became a universal informant and the most successful marketing device ever invented. It also became a focus of interest for psychologists, sociologists, political scientists, and numerous other professional groups who wanted to understand the potential impact of this medium. Of particular interest to psychologists was the influence of television on cognitive, behavioral, and affective variables in viewers.

Demographics and Television Viewing

To begin, it is necessary to understand the ever-expanding role that television plays in the daily lives of Americans. Seventy-four percent of U.S. households have at least two television sets, which are in use for an average of 7 hours per day (Nielsen Media Research, 1998). Individuals spend just over 4 hours per day watching television, a figure that has steadily risen since the 1960s (Comstock & Scharrer, 1999). With regard to specific demographics, several investigators have found that less affluent, less educated, those in low-status jobs, and separated/divorced individuals watch more television than their wealthier, better educated, and married counterparts (Kubey & Csikszentmihalyi, 1990; Wober & Gunter, 1982). In addition,

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older persons watch more television than younger individuals, women watch slightly more than men, and minority groups (e.g., Blacks and Hispanics) view more TV programming than Whites (Comstock & Scharrer, 1999; Nielsen, 1998). Interestingly, however, recent data have demonstrated a narrowing of differences between television viewers, such that demographic variables are no longer the strong predictors of viewing they once were (Comstock & Scharrer, 1999).

Since the advent of cable television, programming choices have increased in both number and content variety. In 1997, the average American household received 49.2 channels, making options for viewing quite vast (Nielsen, 1998). Preston and Clair (1994) reported that comedic movies, situation comedies, and sports are among the top five preferred television genres for both male and female audience members, while religious programs are the least desirable genre. News programming was found to be desired more by males than females, but both sexes reported a likelihood to watch news programs (Preston & Clair, 1994). Based on the viewing habits of 329 families, Anderson, Collins, Schmitt, and Jacobvitz (1996) found that female viewers watch approximately 4½ hours of drama programming, 2½ hours of comedic programming, and 3½ hours of news programming each week. Males reported watching an average of 2 hours each of comedic, drama, and action programs per week, in addition to viewing news programs for approximately 2½ hours per week. Irrespective of program choice, TV viewing is an activity frequently engaged in by most Americans, adults and children alike (Comstock & Scharrer, 1999).

Motivations for Viewing: Uses and Gratifications

Kubey and Csikszentmihalyi (1990) reported that television viewing is in the upper third of people's most desired activities, surpassed only by lovemaking,

socializing, eating, resting, and sports. Given the incredible popularity of this medium, numerous researchers have attempted to identify specific motivations for television viewing. Like the radio, television was designed to provide entertainment, so one would suspect that viewers watch television, at least in part, for amusement. The list of potential gratifications provided by television, however, goes beyond entertainment to include passing time, diversion, relaxation, companionship, information, escape, and arousal, among others (Greenberg, 1974, as cited in Rubin, 1983; Palmgreen & Rayburn, 1979; Potts & Sanchez, 1994; Rubin, 1977, 1983). For some, such as those who have mobility limitations or who are socially anxious, television functions as an alternative to interpersonal communication, a phenomenon known as parasocial interaction (Rubin, 1994). In this case, viewers use familiarity with and knowledge about television characters as a substitute for making and maintaining social relationships in the real world.

In 1983, Rubin investigated the interactions of viewing motivations (e.g., entertainment) with viewing behavior (e.g., amount, type of programming). He performed advanced statistical analyses on data collected from 464 telephone respondents. Participants completed a 30-item questionnaire that assessed motivations for television viewing, and they also answered questions about their viewing habits, program preferences, and opinions about television's importance and realism. Respondents gave five primary motivations for viewing: to pass time or out of habit, to gain information or to learn, for entertainment, for companionship, or to escape (Rubin, 1983). Results also delineated two main types of viewers: the first type uses television primarily out of habit, to pass time, relieve boredom, and for entertainment. These individuals tend to be heavy viewers of television; however, they do not show obvious program preferences. They tend to perceive television as a

realistic medium, and they hold television in high regard. The other type of viewer uses television to acquire information and to learn. These viewers tend to prefer talk-interview, news, and game-show programming. Their affinity for television is rather low, but they value TV programming as a way by which they may learn about people, places, and events, all of which they perceive to be realistically portrayed on television (Rubin, 1983).

Viewing habits, however, appear to vary not only as a function of how one uses television (e.g., to gain information), but also of how one is feeling (e.g., happy, sad) at any given time.

Mood and Viewing

The relationship between television viewing and viewers' moods has become an intriguing area of study for researchers. For example, Kubey (1986) collected questionnaire responses from 107 employed respondents in order to assess the experiential states that occur before a heavy or light night of television viewing. Using the Experience Sampling Method, participants wore pagers for 1 week and were "beeped" seven to nine times per day. These beeps served as a trigger for them to fill out several self-report measures aimed at assessing activities, including television viewing, and mood states. Unlike many studies before it, this method of data collection measured viewing habits and moods in a nonlaboratory, field setting. Activities were recorded on the Random Activity Information Sheet, while mood was assessed using ratings from a 7-point opposite adjective scale, which included descriptors like *happy–sad* and *cheerful–irritable*. A person was said to have engaged in a heavy night of viewing if he or she reported watching at least three more programs than on a light night of viewing. It was found that respondents who

reported bad, negative mood states in the afternoon and evening, tended to watch more evening television than those who reported good moods, especially when viewing was precipitated by solitary, unstructured activities. In fact, Kubey (1986) found that the experience of negative affect, as opposed to negative cognitive or physical states (e.g., difficulty concentrating, feeling drowsy), was the only predictor of heavy TV viewing. Presumably, Kubey argues (1986), participants experiencing negative moods used television more to escape and avoid the discomfort that occurred during idle time. Likewise, in a retrospective survey study, Morgan (1984) assessed the relationship between viewing habits and quality of life in a sample of almost 3,000 respondents. Participants gave estimates of TV viewing and rated their lives along four dimensions: *great* (e.g., interesting, meaningful, fulfilling); *calm* (e.g., happy, comfortable, peaceful); *intense* (e.g., pressured, frustrating, tiring); and *lousy* (e.g., lonely, boring, depressing). Controlling for demographic variables, Morgan (1984) found that heavy viewers were more likely to describe their lives as lousy and less likely to describe their lives as great than were light or moderate viewers. Heavy viewers were also slightly less likely, however, to report having pressured, frustrating, or difficult lives. Those who reported the greatest levels of peacefulness were female viewers who engaged in moderate amounts of viewing. Unfortunately, the way by which respondents were classified as heavy or light viewers was not provided for this investigation.

The link between heavy viewing and quality of life was also examined by Anderson et al. (1996), who found that the occurrence of more stressful events, as measured by the Life Events Inventory (Cochrane & Robertson, 1973), was predictive of heavier television use. Recently, Dittmar (1994) explored the relationship between depression and television viewing habits in college students.

Participants included both depressed and nondepressed males and females, as determined by t scores greater than 70 on the MMPI Depression Scale and a clinical interview. All subjects (n = 48) tracked their television viewing behavior for 1 week. Results indicated that depressed males and females watched more television overall than their nondepressed counterparts, with depressed females being the heaviest viewers.

Contrary to these findings, Potts and Sanchez (1994) found no relationship between depressive symptoms and heavy TV use. They asked 116 subjects with various degrees of depressive symptomatology, based on Beck Depression Inventory scores, to provide information about their television viewing habits. Although depression and heavy viewing were not found to be associated, depressed subjects in this study did report using TV to escape unpleasant feelings, a finding consistent with that of Kubey (1986).

With rare exceptions, then, research has demonstrated a relationship between dysphoric experiences and increased television viewing (Dittmar, 1994; Kubey & Csikszentmihalyi, 1990).

Selective Exposure

Given that TV viewing and mood states have been shown to be related, some researchers have sought to determine whether an individual's affective state is predictive of specific viewing behavior (e.g., program choice). For example, based on the findings that television offers a distraction or escape from boredom, negative thoughts, and solitude (Potts & Sanchez, 1994; Rubin, 1977, 1983), Zillman and Bryant (1985) proposed the theory of affect-dependent stimulus arrangement. In accordance with mood management theory, which suggests that individuals seek out

activities that will minimize affective discomfort, these researchers posited that persons in negative affective states would choose television programming that had the greatest likelihood of relieving them of their distress. Through operant learning, they say, distressed persons acquire a preference for specific types of television programming that have been successful in relieving their negative moods and replacing them with more positive affect in the past (Zillman & Bryant, 1985).

Zillman, Hezel, and Medoff's (1980) first investigation of the theory of affect-dependent stimulus arrangement hypothesized that persons in negative affective states would prefer comedic and game-show programming over action-drama viewing. Researchers manipulated the affective states of 72 undergraduate students by providing them positive, neutral, or negative feedback on a bogus facial sensitivity task, irrespective of the responses given by participants. Subjects were then given a 10-minute break, during which they were free to watch television. Program selection functioned as the dependent variable in this investigation. Results indicated that game-show programming was selected more by those experiencing negative affect, while action-drama programming was chosen more by respondents in positive moods. These results lend some support to Zillman et al.'s (1980) original hypothesis in that individuals experiencing negative affect tended to choose game-shows over action dramas, presumably because game-shows had successfully relieved them of their affective distress in the past. Contrary to their hypothesis, however, individuals in a negative affective state (e.g., annoyed) were found to avoid comedic programming. To explain this finding, the authors offered a post-hoc explanation, suggesting that some comedy programs include hostile, ridicule-laden comedy that may serve to perpetuate, rather than relieve, negative affect in viewers (Zillman et al.,

1980). Therefore, they argue, annoyed respondents did not choose comedic programs because the shows were not likely to provide them relief from their annoyed states.

In order to clarify these findings, Bryant and Zillman (1984) conducted a follow-up study to determine how selective exposure operates in bored versus stressed individuals. Participants included 120 undergraduate students whose affective states were manipulated by engaging in 60 minutes of either monotonous, boring tasks (e.g., tightening and loosening a bolt) or frustrating, difficult timed-tasks (e.g., solving intellectual puzzles). They were then placed in a room with a television, where they were told to wait approximately 15 minutes for the next portion of the study to begin. A list of television programs was presented to the participants, and they were encouraged to watch any program(s) they desired. A total of six program choices were provided, three of which were judged to be relaxing by 30 independent raters, and three of which were judged to be exciting. Again, program selection was the variable of interest, in addition to heart rate measures, which were taken both at the completion of the 60-minute boredom/stress sessions and after the 15-minute viewing period. Results showed significant differences in heart rate between conditions, with stressed individuals scoring 9 beats per minute faster than bored subjects. In terms of viewing preferences, stressed participants watched nearly six times as much relaxing television as their bored counterparts, yet they chose exciting and relaxing fare in approximately equal amounts. Bored subjects, on the other hand, watched nearly twice as much exciting fare as did stressed subjects, and they exposed themselves to exciting programming ten times longer than relaxing fare (Bryant & Zillman, 1984). In fact, bored subjects who chose exciting programming had the largest average increase in heart rate at the end of the viewing period, 7 beats per minute faster than their previewing rates. These findings provide support for the

notion that acutely aversive states foster selective exposure to television programming that is capable of providing relief: stressed subjects chose more tranquil programming and bored participants watched more exciting fare. However, stressed subjects chose relaxing and exciting programming in equal amounts, which cannot be explained by the theory of affect-dependent stimulus arrangement. Bryant and Zillman (1984) propose that TV programming of any kind may provide "cognitive intervention" for some individuals, which is sufficient to provide relief from their affective distress, while others depend on specific types of programming to alleviate their discomfort.

The selective exposure hypothesis has received support from other investigations as well. For example, a preference for comedic programming has been demonstrated in women experiencing negative affect as a result of menstrual cycle fluctuations and pregnancy (Helregal & Weaver, 1989; Meadowcroft & Zillman, 1987). Furthermore, Anderson et al. (1996) examined the relationship between stressful life events and program preferences in 329 viewers. Using the Life Events Inventory to measure the number of stressful events experienced during the past year, more stress was found to be associated with increased viewing of comedy and game-show/variety programs (Anderson et al., 1996). Of course, causal statements may not be made based on these findings, but research suggests that the experience of certain affective states does impact program selection. Specifically, it has been shown that individuals in dysphoric states choose comedic or game-show programming over action-drama (Anderson et al., 1996; Bryant & Zillman, 1984; Helregal & Weaver, 1989; Zillman et al., 1980). The selective exposure hypothesis not only assumes that individuals seek out certain programs as a result of their moods, but also acknowledges that these programs will impact viewers' affective states (e.g., by

relieving them). This latter notion introduces another area of research regarding television and affect: how TV programming influences viewer affect.

Cultivation Hypothesis

Gerbner and Gross (1976) have proposed the cultivation hypothesis, which posits that television shapes and misshapes audience conceptions of the real world. In this way, viewers are said to hold distorted views about society that closely reflect how the world is portrayed on television. Gerbner and his colleagues have conducted large-scale, on-going research aimed at demonstrating cultivation effects, and they have presented data from several studies that support this notion (Gerbner & Gross, 1976; Gerbner et al. 1977; Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978; Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979; Gerbner, Gross, Morgan, & Signorielli, 1980). Researchers analyzed large and representative aggregates of television output, as well as responses from viewers who represented various demographics and backgrounds. Television samples were derived from annual sample-weeks of prime-time and weekend daytime network dramatic programming over a period of more than a decade. Trained analysts observed and coded various aspects of TV content, including the portrayal of violence and presence of weaponry, for example. Respondents were randomly selected from multiple U.S. cities' phone directories, representing diverse demographics with regard to age, education levels, and other social and personal characteristics (Gerbner et al., 1978). Questions concerning numerous aspects of social reality (e.g., mistrust of authority, fear of falling victim to criminal attack, lack of hope for the future) were presented, and viewers were given response choices that included a "television view" and a "real world view." For example, the question *During any given week, what are*

your chances of being involved in some kind of violence? included a television answer (i.e., 1 in 10), which reflected the amount of violence portrayed on television, and a real world answer (i.e., 1 in 100), which reflected actual crime statistics. Results demonstrated a strong relationship between heavy television viewing and perceptions of danger in the real world (Gerbner & Gross, 1976). Specifically, heavy viewers (i.e., more than 4 hours of viewing per day) were more likely to perceive the world as dangerous, to report greater distrust of others, and to be more apprehensive about becoming a victim of a crime than were light viewers (i.e., less than 2 hours of viewing per day). These results were reported to be present across all demographic groups (Gerbner et al., 1978), and they suggested that increased exposure to television is associated with conceptions of social reality that closely reflect television's portrayal of events rather than the occurrence of those events in reality.

Some researchers have questioned the validity of Gerbner's findings (Hirsch, 1980, 1981a, 1981b; Wober & Gunter, 1982). In fact, when similar studies were conducted that controlled for various demographic variables known to be correlated with television viewing habits (e.g., sex, education level, SES), the relationship between TV viewing and perceived fear of crime was considerably weakened or disappeared entirely (Hirsch, 1980, 1981a, 1981b). Still others have investigated additional variables thought to contribute to this relationship (Doob & Macdonald, 1979; Heath & Petraitis, 1987). Doob and Macdonald (1979), for example, attempted to replicate Gerbner's findings, while controlling for the actual incidence of crime in respondents' neighborhoods. Subjects were randomly selected from four cities in Toronto that represented high- and low-crime inner city and suburban areas, identified via metropolitan Toronto police statistics. Subjects were asked to list the programs they watched during the previous week, which served as an index of total

viewing. They also completed a 37-item questionnaire aimed at assessing, among other things, perception of crime rates and fear of victimization. It was found that those who watched the most television tended to be most afraid of their environments, which replicates the findings of Gerbner and his colleagues (1976, 1977, 1978, 1979, 1980). However, once the effect of actual neighborhood crime rates was removed from the correlational analyses, the relationship disappeared for all areas except the high-crime, inner city regions. Doob and Macdonald (1979) suggest that since most television violence depicts criminal activity in inner city neighborhoods, viewers outside of such areas feel that TV violence has less relevance for them. Likewise, Gerbner et al. (1980) have proposed the notion of "resonance" to explain why heavy television viewers do not show higher levels of fear of their immediate environments, except in high-crime areas. They argue that television images that match real-world experiences, which would likely be the case in high-crime areas, provide a double-dose of that reality and produce more profound cultivation effects. Tyler and Cook (1984) offer a similar explanation, suggesting that media messages judged to be personally applicable increase the degree of personal-risk assessments.

Data collected by Doob and Macdonald (1979) were also subjected to a stepwise multiple regression analysis, using the fear of crime factor scores as the criterion and various other social and media exposure data (e.g., total TV viewing, violent TV viewing, newspaper reading, news radio listening) as predictors. Because women and older individuals reported higher levels of fear, sex, and age were controlled for, in addition to actual neighborhood crime rates. Results showed that media usage had no significant predictive value regarding fear of victimization levels.

"Thus, it would appear that television itself is not likely to be a direct cause of people's fear of being victims of a crime" (Doob & Macdonald, 1979, p. 177).

Tyler and Cook (1984) offer an alternative explanation for the conflicting findings reviewed above. They propose that television affects general, societal level judgments about crime, for example, but does not impact personal level judgments about individual risk of victimization. In a series of studies, subjects completed surveys that measured societal level perceptions and personal risk assessments regarding various issues, such as use of firearms and drunk driving. Participants were then asked to read or watch materials about such topics, after which they again completed the personal and societal judgment measures. Results consistently demonstrated changes in societal level judgments (e.g., seriousness of problem, need for government action) after reading or watching stimulus materials, with little or no impact on personal level judgments (e.g., fear of becoming a victim). These data suggest that television programming may impact viewers' views about the seriousness of a problem within society but does not alter views about personal risk (Tyler & Cook, 1984).

In a related study, Heath and Petraitis (1987) collected information from 372 telephone respondents representing 26 medium-sized U.S. cities. The interview measured TV viewing habits (e.g., total viewing, crime-drama viewing), crime victimization experience, and perceived fear of victimization in their own neighborhoods, their own cities, and in a distant urban city (i.e., NYC). In accordance with Tyler and Cook's theory of personal versus societal level judgments (1984), this study found that television viewing was associated with fear of crime in distant, urban settings, but not in respondents' local environments, unless that environment looked similar to the crime-ridden neighborhood depicted on television.

However, this effect was present in men only. In fact, females living in dangerous neighborhoods and who were also heavy viewers reported significantly less fear than light viewers in high-crime areas. These findings suggest that while cultivation effects can be observed in some samples, they are not universal. Heath and Petraitis (1987) suggest that several qualifiers be applied to Gerbner's theory of television's cultivation effects: location (e.g., perceived fear in distant urban settings vs. one's own neighborhood), gender (e.g., women and men report varying levels of fear), actual crime rates (e.g., higher crime areas lead to higher perceptions of fear, regardless of viewing habits), and actual exposure to television (e.g., measures of viewing must be operationalized and consistent across studies). In addition, measures of personal risk and fear of victimization should be consistent across studies to enhance the validity of the constructs. These potentially confounding variables must be considered and/or controlled for when studying possible cultivation effects of television.

Another "third variable" hypothesis has been proposed by Wober and Gunter (1982). Based on findings that transient mood states produce short-term viewing preferences (Kubey, 1986; Zillman & Bryant, 1985), Wober and Gunter (1982) argue that long-term viewing behaviors might be determined, at least in part, by personality dispositions of individuals. In this way, perceptions of environmental threat or danger may represent a belief system associated with the underlying social reinforcement history of the individual. If this is true, these authors believe that locus of control should correlate with measures of social anxiety and mistrust, which were used to support Gerbner's theory of cultivation effects (Wober & Gunter, 1982). It might then follow that locus of control, rather than television viewing, underlies perceived anxiety and fear of victimization. That is, those who feel less in control of their own

destiny, as indicated by high external locus of control, would be expected to feel more fearful of their environments. In this study, 322 respondents returned mailed questionnaires that included measures of weekly program viewing (amount and type) and 15 items that assessed four dimensions: *fear of victimization, locus of control, cynicism,* and *personal satisfaction.* As was predicted, fear of victimization and locus of control items were moderately correlated ($r = .48$). Results indicated that heavier television viewing of both fictional and informational (e.g., news) programming was associated with external locus of control when fear of victimization was held constant. However, no significant relationship was demonstrated between heavy viewing and fear of one's environment when locus of control was controlled for, which challenges Gerbner's notion of cultivation effects. These authors posit that the relationship between TV viewing and fear of victimization may be mitigated by external locus of control, such that people who feel less in control of their lives express cautious and, perhaps, fearful attitudes, and often stay at home more to watch television.

> These results suggest that personality variables which characterize television viewers at deeper levels than measures of social perception may also need to be considered in explaining relationships superficially demonstrated between amounts of television viewing and allegedly paranoid conceptions of social reality. (Wober & Gunter, 1982, p. 246)

Television News and Mood States

Gerbner and his colleagues examined general, albeit representative, samples of television output, without attending to specific types of programming, while selective exposure theorists have focused mostly on comedy, game-show, and action-drama programming. Some have focused on the impact of violent programming (for a review, see Hughes & Hasbrouck, 1996), while still others (e.g., Senn & Radtke,

1990) have examined the implications of watching pornographic materials (for a review, see Davis & Bauserman, 1993). Little research, however, has been done to examine the role of television news on affective responding in viewers.

A 1995 poll found that public television is the number one news source for Americans (Roper Starch, 1995). In fact, almost 75% of respondents counted television as their primary source for news. Furthermore, respondents in multiple studies have cited television as the most credible and/or believable news source and the most comprehensive of all media (Bower, 1973, 1985). Although TV newscasts are not the most popular type of programming, Anderson et al. (1996) reported that males and females watch, on average, 3 hours of news programming per week. Given that news broadcasts contain a proportionately large amount of negative, conflictual, and violent material (Johnson, 1996; Kovsky, 1996; Stone & Gruisin, 1984), even limited exposure may be expected to negatively impact viewer responding. Correspondingly, Wober and Gunter (1982) reported that heavy news viewers were more fearful, more cynical, and less satisfied with their lives than those who viewed little news programming.

Recently, Johnston and Davey (1997) conducted an investigation that examined the effects of positively and negatively valenced news items on viewers' moods, namely anxiety and depression. In addition, the authors measured how television news impacted viewers' perceptions of personal worries. Thirty undergraduate students were randomly assigned to one of three groups, whereby they were shown a 14-minute edited newscast that was negative, positive, or neutral in content. Newscasts were constructed by having four independent judges rate a sample of national and regional news items along three dimensions: positive/negative, pleasant/unpleasant, and calm/excited. Seven news items, rated as positive, negative,

or neutral, were selected for inclusion on each stimulus tape. Subjects completed the STAI-trait (Y-2), the BDI, and the Penn State Worry Questionnaire before viewing the news items, and they provided a list of three current personal worries, in order of importance. After viewing the assigned news segment, subjects again completed the STAI, the BDI, and the Penn State Worry Questionnaire. They also engaged in a one-on-one interview that assessed the level and severity of the primary worry they had listed at pretesting. Johnston and Davey (1997) convincingly demonstrated that subjects who viewed the negatively valenced news bulletin became significantly more anxious and "sad" after viewing, despite a lack of differences between groups on these measures at pretesting. Similarly, subjects exposed to the negative news items tended to catastrophize more about their personal worries than those who viewed the positive or neutral news clips. These results suggest that negative news programming can both adversely affect mood and exacerbate worrisome thoughts, independent of trait measures of anxiety and depression and relevancy of the program content itself.

Similar results were obtained by Veitch and Griffitt (1976), and although the medium included in the investigation was radio rather than television, their findings are relevant and deserve mentioning. In one of the first studies of its kind, researchers examined the effects of a radio news broadcast on the affective states of listeners and subsequent behavior-attraction responses. After exposing 40 undergraduate students to a radio news broadcast that contained only negative or only positive stories, respondents completed the Feelings Scale, a measure of immediate affective states, and the Interpersonal Judgment Scale, a measure of personal feelings toward a stranger. Results showed that respondents who heard the negative radio newscast reported more negative affect (e.g., uncomfortable, low, unpleasant, and negative) than those who heard the positive broadcast. In addition, those who listened to the

negative newscast tended to evaluate the stranger in more negative terms, suggesting a relationship between reported affect and evaluations of others (Veitch & Griffitt, 1976).

Another study, conducted by Potts and Sanchez (1994), examined the psychological outcomes of viewing television news programs and investigated the relationship between depression and motivations for TV viewing in general. Undergraduate university students (n = 116) were asked to complete several questionnaires during large group testing sessions: the BDI, the California Epidemiological Scale for Depression, a measure of motivations for watching television that was developed from previous research, and a measure of news viewing and total weekly viewing. Results showed that 62% of the sample was experiencing minimal or no depression, 18% mild, 15% moderate, and 5% severe depression, with females showing slightly higher levels of dysphoria than male respondents. In both sexes, depression was associated with more negative feelings and fewer positive feelings after watching television newscasts. Interestingly, few respondents acknowledged avoidance of news programming, which would be expected by mood management theorists who posit that persons selectively expose themselves to programming that provides them relief from their affective distress (Zillman & Bryant, 1985). Of those who did avoid news programming, reasons for avoidance that were given by respondents included, "watching caused depressed or sad feelings" and "newscasts were boring" (Potts & Sanchez, 1994). These findings suggest that, instead of relieving affective distress, watching television newscasts has the opposite effect on viewers, such that negative moods may be exacerbated rather than abated. Unfortunately, researchers relied on retrospective reporting of affective responses to TV news, rendering causal statements questionable.

News Viewing and Perception of Violence and Risk

Some researchers have gone beyond looking at short-term mood effects to determining how television might impact more stable perceptions of risk and victimization. Cairns (1989) sought to determine the relationship between news viewing and perceptions of violence in children. He surveyed 520 children from five different towns in Israel, which contained varying levels of political violence (e.g., two towns were above average, two towns were below average, one town had no violence). The children were asked about their television news viewing habits and about their perceptions of violence in their own neighborhoods. Correlational analyses were computed to detect an association between television news viewing and perceived level of violence in their neighborhoods, when actual levels of violence were controlled for. First, respondents' perceived levels of violence closely reflected actual levels of violence in their own towns (Cairns, 1989). For example, children from the high-violence areas reporting the greatest amount of violence, while those in the no-violence area reported the least amount of violence. Results showed that in the high-violence areas, children who reported the greatest news exposure perceived significantly higher levels of violence compared to those who watched news less, but these levels were consistent with actual amounts of violence in their towns. Conversely, in the no- and low-violence areas, news exposure was not related to amount of perceived violence. These results suggest that television news heightened awareness and facilitated well-informed perceptions of violence in respondents' neighborhoods rather than distorting reality about actual levels of violence there. This finding is consistent with others (Doob & Macdonald, 1979; Gunter & Wober, 1982)

who reported a relationship between overall television viewing and perceived neighborhood risk, only in high-crime areas.

In another investigation, Gunter and Wober (1983) collected data from 414 respondents on their television viewing habits, including news programming, and their perception of risk from 12 "hazards to life." Four hazard areas were assessed: accidents (e.g., in the home and work, road accidents); natural disasters (e.g., lightning, flooding); hazards caused by man (e.g., nuclear attack, terrorist bomb attack); and illness (e.g., cancer, heart disease, food poisoning). Results showed that overall amount of television viewing was related to perceptions of personal risk from three hazards to life (lightning, flooding, terrorist bombing). Surprisingly, however, no relationship was found between television news viewing and any hazard to life. These findings were replicated by Wober and Gunter in 1985, suggesting that news viewing is not related to an increased perception of risk for any of the 12 hazards to life studied. It should be noted, however, that neither of these studies included a measure of fear of criminal victimization, which is frequently the subject of news broadcasts (Johnson, 1996; Kovsky, 1996). It may be expected that an association between news viewing and worries about crime victimization would have been demonstrated if it had been included.

Finally, a recent investigation examined the effects of including humorous news items or human interest news items, along with bad news items, on feelings of apprehension and personal vulnerability (Zillman, Gibson, Ordman, & Aust, 1994). Participants (*n* = 75) watched four "bad" news items, followed by either a humorous story, a human interest story, or another bad news story. Participants then reported on their perceptions of the seriousness of the social problems viewed, their pessimism about the future, and the personal applicability of the stories. When viewers saw a

humorous news item last, they reported fewer worries about the social problems depicted and less pessimism about the future. However, the inclusion of a humorous item did not appear to influence concerns about personal consequences. Likewise, the inclusion of a human interest story did not affect viewer perceptions about social issues, personal, or future consequences (Zillman et al., 1994).

Content of News

In an effort to describe the specific composition of television newscasts, numerous investigators have performed content analyses on TV news samples. Not surprisingly, there is a popular belief that more bad news is portrayed on television than good news (Galacian, 1986; Haskins, Miller, & Quarles, 1984). Stone and Grusin (1984) found support for this notion when they analyzed 1 week's worth of randomly sampled newscasts from each of the three major television networks (i.e., ABC, CBS, and NBC) over a 20-day period. Content analysis by eight graduate level journalism students revealed that bad news (i.e., negative or downbeat) was covered almost twice as much as good news (i.e., positive or upbeat) on two of the networks, with still significantly more bad news covered on the third. For example, ABC broadcast an average of 56% bad news and 24% good news during the time period sampled. In addition, bad news stories tended to be longer, were more likely to be accompanied by film clip footage, and were usually aired during the beginning portion of the newscasts (Stone & Guisin, 1984). Only one fourth of all stories analyzed fell into the good news category. Similarly, a review of 3-months' worth of radio and television news stories aired in Knoxville, Tennessee (Haskins et al., 1984) revealed that 60.4% of television news was considered bad news, while only 21.5% fell in the good news category. In this case, a story was classified as bad news if it

was, for example, unpleasant, critical, conflictual, unhealthy, gruesome, injurious, fear-provoking, or abusive (Haskins et al., 1984).

Comstock and Scharrer (1999) point out that news broadcasts tend to emphasize death, strife, political conflict, crime, hazards, and disasters. It seems, however, that national and local newscasts differ somewhat in the amount and type of negative news they portray. Johnson (1996) analyzed 100 hours of television news from local (i.e., New York station), network (i.e., CBS), and cable news (i.e., CNN) stations. Each news segment was coded into one of six categories that represented various aspects of violence, conflict, and suffering (VCS): violent crime, tragedy and suffering, conflict and discord, social and collective protests involving violence or threats of violence, war and military affairs, or other. Consistent with other studies, CNN and CBS portrayed violence, conflict, and suffering in just over half of the stories aired (51.1% and 52%, respectively). Local news, however, was found to contain significantly more VCS, with 61.2% of stories falling into this category (Johnson, 1996). While national and cable news stations covered close to equal numbers of stories related to crime, tragedy, conflict, and protests (22%, 19%, 15%, 13%, for CBS, respectively), they tended to emphasize coverage of war-related information (32% of stories). On the other hand, local news programming focused much more on crime (46.5% of stories) and much less on war (2.5% of stories). Similarly, in an analysis of local news in Detroit over a 3-day period, Kovsky (1996) found that 43.5% of news items pertained to accidents, animal cruelty, child abuse, crime, arson, and fire, and this finding was consistent across three local news stations.

Johnson (1996) also examined the placement of stories portraying violence, conflict, and suffering and found that 76% of the time, the lead news story contained VCS. Likewise, in almost three quarters of the cases, each of the first five stories

portrayed some form of violence, conflict, or suffering. Mundorf and Zillman (1991) expanded this line of research by examining whether the particular sequencing of news stories would impact affective reactions to those stories. They assigned 216 undergraduate students to one of nine stimulus groups, whereby they viewed two news stories that were either negative, neutral, or positive in nature and presented in varying orders (e.g., positive/negative, negative/neutral, negative/negative). After viewing the news, subjects rated their reactions to each of the two news stories on 31 dimensions (e.g., calm, elated, tense). It was found that a positively valenced story made the preceding story appear more negative than when a neutral or negative story followed it. Similarly, a negatively valenced story made the preceding story appear more positive than when a neutral or positive story followed it (Mundorf & Zillman, 1991). This suggests that the placement of news stories may influence viewers' affective responses to them.

In light of the predominance of negative news items contained in television newscasts, Galacian (1986) sought to determine how viewers perceive bad news versus good news. A series of questions about television news were asked of 249 news viewers via telephone interviews. More than 90% of respondents described bad news as depressing, yet 44% of the sample agreed that bad news is more interesting than good news. Over two thirds of respondents reported that too much bad news and not enough good news is portrayed on television, and 59% of the sample said that TV newscasts tend to make things worse than they really are. Finally, 68% of participants believed that negative news can have an undesirable effect on viewers, and the same percentage desired the inclusion of more positive stories. In light of these findings, it might be expected that viewers would avoid exposure to negative news; however, the findings have been equivocal. While Potts and Sanchez (1994)

found no relationship between depression and avoidance of news programming, Anderson et al. (1996) found that more stressful life events was associated with less news and documentary viewing. In spite of reports that negative news can have undesirable effects on viewers, viewers continue to watch television news programs. The appeal of negative news, including that which contains tragedy and suffering, is still somewhat unclear. As Zillman and Bryant (1994) explain, "Understanding tragedy and, in particular, the popularity of bad news thus poses a formidable challenge to entertainment research" (p. 453).

Despite these reports, the predominance of coverage of bad news is likely to continue. A survey of more than 100 news directors found that over two thirds thought good news was "fluff" and 60% agreed that bad news was more effective than good news in attracting the audience (Galician & Pasternack, 1987).

Recall of News

With regard to the extent that viewers remember the news they watch, several studies have examined factors that hinder or enhance recall for news stories (Gantz, 1978; Furnham & Gunter, 1987; Gunter, 1980; Ksobiech, Tiedge, & Bor, 1980; Stauffer, Frost, & Rybolt, 1983). Variables such as newscaster gender and film versus still photos have not been found to impact memory for news, whereas conflicting findings have been reported regarding the influences of story length, personal relevance of news stories, and watching versus reading the news. In contrast, Stauffer et al. (1983) clearly demonstrated that increased attention to news items aided in the recall of those items. It has also been found that individuals who report watching newscasts for the purpose of information-acquisition recall more news than those watching for recreation or diversion (Gantz, 1978).

The content of television news stories appears to influence memory for news items as well. Furnham and Gunter (1987) found that memory for violent news items was better than memory for nonviolent news stories, especially when violent stories contained visual images in addition to the audio component (Gunter, 1980). On the other hand, when Newhagen and Reeves (1992) examined memory for news items that contained compelling negative images versus those that did not, they found no differences in memory for factual information across conditions. They did, however, find that semantic information (e.g., speech) was not recalled as well as the aural, emotion-laden information (e.g., screams) that accompanied the profoundly negative images (Newhagen & Reeves, 1992).

Memory for television news items also varies when measured at different times of day. One study exposed subjects to news clips at 8:30 a.m., 1:30 p.m., and 4:30 p.m., and found that morning viewers remembered significantly more news items on tests of immediate free recall, immediate cued recall, and recognition tasks than early or late afternoon viewers (Gunter, Jarrett, & Furnham, 1983). In a follow-up study, researchers examined delayed recall for television news stories (e.g., 2 hours after viewing) but were unable to demonstrate the same time-of-day effects. Instead, individuals tended to remember the same number of news items, regardless of the time of viewing, on a delayed recall task (Gunter et al., 1983).

In an investigation combining time of day, medium of news presentation, and violent versus nonviolent news, Furnham and Gunter (1987) randomly assigned 103 subjects to one of nine groups. Each subject viewed four news stories that were derived from previous television broadcasts, under one of three conditions (i.e., audiovisual, audio-only, or print), and at one of three times of day (i.e., 9:30 a.m., 1:30 p.m., and 5:30 p.m.). The four stories were presented in the same order to all

subjects: violent story, nonviolent story, violent story, nonviolent story. Subjects then completed a 20-item retention questionnaire that probed for detailed content information from the stories. Consistent with previous research, immediate recall was found to be best in the morning and worst in the evening, irrespective of the medium presentation. In addition, memory for violent news was better than for nonviolent news at all times of day and under each medium condition (Furnham & Gunter, 1987; Gunter, 1980).

Regardless of the presence or absence of memory-enhancing variables, less than one quarter of news items are typically recalled in studies on memory for television news (Furnham & Gunter, 1987; Gunter, 1980; Stauffer et al., 1983).

Mood Literature

A great majority of the psychological literature contains some mention of mood and/or affect. Mood may be described as a transient psychological state that is influenced by environmental events, cognitive processes, subjective reactions, and psychophysiological processes (Thayer, 1989). Mood is frequently described as simply good or bad; however, Thayer (1989) points out, "One of the most persistent and theoretically troublesome questions regarding mood concerns its dimensions or component parts" (p. 15). Early mood researchers conceptualized mood as multidimensional and believed that, in order to describe mood adequately, more than five factors needed to be considered (McNair, Lorr, & Droppleman, 1971; Nowlis, 1965; Watson, Clark, & Tellegan, 1988). More recent investigations have demonstrated that subjective emotional experience (i.e., mood) is dominated by two broad, general dimensions: negative affect and positive affect (Diener & Emmons, 1984; Watson & Tellegan, 1985). In fact, in a reanalysis of a large number of studies

of self-rated mood, negative and positive affect consistently emerged as the first two factors, accounting for between 50% and 75% of the common variance (Watson & Tellegan, 1985).

Negative affect is a general factor of subjective distress and subsumes a wide range of negative emotional states (e.g., sadness, fear, anxiety). Conversely, positive affect reflects subjective pleasure, and is described by terms such as enthusiasm, energy level, and joy (Clark, Watson, & Leeka, 1989). Mood research by Nowlis (1965) and others (McNair et al., 1971) has suggested that positive and negative affect are negatively correlated, such that as positive mood increases, the experience of negative affect decreases and vice versa. More recent investigations, like those conducted by Watson et al. (1988), have found that positive and negative affect are two entirely uncorrelated dimensions of mood. Some of the confusion regarding this issue may be attributable to methodological problems across studies that include poor sampling of affect terms and improper response formats (Watson & Tellegan, 1985). Diener and Emmons (1984) attempted to clarify this issue by conducting a series of experiments that assessed positive and negative affect over several different time periods, using large sample sizes. They found that the relation between positive and negative affect depends upon the time period being considered, such that positive and negative affect vary inversely over short time spans but are largely independent over time periods of weeks or more (Diener & Emmons, 1984). In other words, positive and negative affect are unlikely to co-occur at the same moment, whereas, over longer periods of time, the amount of positive affect experienced is unrelated to the amount of negative affect experienced.

Further analysis of positive and negative affect (Watson & Tellegan, 1985) has indicated that positive affect is approximately normally distributed, while negative

affect tends to remain at fairly low, constant levels, except for periodic elevations of extreme distress. Furthermore, depression has been found to be related more to low positive affect than high negative affect, while anxiety is related more to high negative affect than to low positive affect (Watson & Tellegan, 1985). Despite these trends, the extent to which individuals experience positive and negative affect is variable, both in terms of frequency and intensity (Larsen & Diener, 1987). Weinfurt, Bryant, and Yarnold (1994) draw a distinction between two concepts, labeled "affect intensity" and "affect reactivity." Affect intensity is described as dispositional emotionality, or the characteristic strength of the emotions people feel. Affect reactivity refers to situational emotionality, or the characteristic strength of people's emotional responses to emotion-evoking stimuli (Weinfurt et al., 1994). Individual differences in emotional responding to specific stimuli may be better understood by examining this reactivity-intensity dimension (Bryant, Yarnold, & Grimm, 1996).

Diurnal Variation in Mood

One important aspect of mood measurement that is frequently ignored is the tendency for mood states to fluctuate as a function of time. When studies incorporate repeated measurement of mood throughout the day, a clear understanding of how mood can fluctuate diurnally is necessary. Many studies have examined temporally related mood patterns (Christie & Venables, 1973; Clark et al., 1989; Egloff, Tausch, Kohlmann, & Krohne, 1995; Stone, Smyth, Pickering, & Schwartz, 1996; Wood & Magnello, 1992). Whether observed variations in mood reflect underlying patterns of psychosocial processes, physiological processes, or a combination of both is not entirely clear. What is known, however, is that positive affect is experienced more often than negative affect and shows systematic fluctuations over the course of the

day (Clark et al., 1989; Egloff et al., 1995; Watson et al., 1988; Wood & Magnello, 1992). Specifically, low levels of positive affect are typically reported in the morning, followed by a gradual increase and peak in the afternoon, and a decline in the evening. Negative affect, on the other hand, shows no diurnal pattern, such that time of day does not predict the experience of negative mood states (Clark et al., 1989; Thayer, Takahashi, & Pauli, 1988; Wood & Magnello, 1992). A rare exception was found by Hill and Hill (1991) when they measured negative mood in the morning and afternoon. Specifically, they found that overall mood disturbance, anxiety, and depression, as measured by the Profile of Mood States (McNair et al., 1971), were greater when measured at 8:30 a.m. than when assessed at 4:30 p.m.

The diurnal pattern of positive mood fluctuation has persisted even when other variables thought to account for this relationship, such as introversion versus extraversion, depression, and morning versus evening types, have been examined and controlled for (Clark et al., 1989). For example, Clark et al. (1989) asked 123 students to complete a measure of their preferred rising and retiring times to determine whether defined morning or evening types show substantially different patterns of diurnal mood variation. Subjects also completed the Positive and Negative Affect Schedule (Watson et al., 1988) 6 times per day for 7 days. The PANAS is a 20-item scale that lists 10 positive affect descriptors and 10 negative affect descriptors that are each rated on a 5-point scale, ranging from *very slightly or not at all* to *extremely*. Results showed that, regardless of their self-defined morning or evening type status, patterns of daily mood fluctuations did not differ. That is, both morning and evening types showed diurnal fluctuations in positive affect but not negative affect. In a follow-up study, Clark et al. (1989) investigated the role of depression in diurnal mood patterns by examining 7 days worth of mood responses

(PANAS) made by respondents who scored either below 7 (*n* =40) or above 12

(*n* = 33) on the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, &

Erbaugh, 1961). As expected, the dysphoric subjects scored higher on the negative

affect scale than control subjects; however, no differences in overall diurnal mood

patterns were demonstrated between the groups (Clark et al., 1989). In similar

investigations, Thayer et al. (1988) and Clark et al. (1989) found that the diurnal

pattern of mood variation can not be attributed to personality characteristics like

introversion-extraversion or neuroticism. Therefore, even when other variables were

held constant, positive affect continued to show lower levels in the morning, a peak

in the afternoon, and a gradual decline in the evening, whereas negative affect

showed no diurnal pattern.

Although findings of diurnal mood fluctuations have been fairly robust, Stone

et al. (1996) sought to determine how environmental events affect diurnal mood

patterns. Based on the work of Rehm (1978), who found that pleasant and unpleasant

events were correlated with changes in mood, Stone and his colleagues (1996) asked

94 employees to record their moods and activities every 15 minutes over a 24-hour

period. Participants were taking part in a larger blood pressure study that required

them to wear ambulatory blood pressure monitors that beeped every 15 minutes,

which cued participants to make their ratings. Using an activities diary, participants

provided information about their location, current activities, and social environment

at each measurement period. The 16 activities included categories like watching

television, writing, personal reading, work-related reading, and keyboard work.

Participants also rated their moods using a nonstandardized instrument that included

the following descriptors: neutral, angry, annoyed, anxious, bored, happy, rushed,

sad, tense, tired, and stressed. To examine patterns in mood over the day, the data

were subjected to linear, quadratic, and cubic regression analyses. Linear trends were detected for neutral, anxious, happy, rushed, and tired; quadratic trends were detected for happy and tired; and cubic trends were detected for sad and tired (Stone et al., 1996). In order to determine whether activities contributed to the diurnal variation observed in these moods, time of day and mood scores were again subjected to linear, quadratic, and cubic regression analyses, with activities and locations held constant. The amount of variance in mood that could be explained by activities and location varied considerably, from 0.7% for bored to 13% for happy. After statistically removing the contribution of activities and locations, only rushed, tired, and sad showed diurnal cycles. Rushed showed a negative linear trend, suggesting that feeling rushed decreases throughout the day. Conversely, a positive linear trend was observed for tired, suggesting that tiredness occurs more frequently as the day goes on. Both tired and sad demonstrated significant quadratic trends, suggesting that tiredness and sadness are more common in the early morning and evening hours than during the middle of the day.

Contrary to previous research, Stone et al. (1996) observed no diurnal pattern for positive affect, while time of day was found to be predictive of some negative mood states. However, several methodological limitations need to be mentioned with regard to these findings. First, unlike other studies, this investigation used a nonstandardized mood instrument, with a dichotomous response key and only one positive descriptor. Using *happy* as the only descriptor of positive affect may have significantly limited the detection of a full range of moods experienced by participants. Also, Stone et al. (1996) included *rushed* and *tired* as descriptors of negative affect, neither of which have been included in previous studies on diurnal mood patterns and may be better described as physical states. Finally, participants

rated their moods and activities with much greater frequency than did subjects in other studies, which may have resulted in reactive effects that influenced their mood ratings.

Despite these limitations, the findings of Stone et al. (1996) demonstrate that environmental events may impact diurnal mood patterns and suggest the importance of considering such events when mood measurements are taken. At the same time, these results illustrate that "Not all diurnal variation in mood is explained by the activities subjects were engaged in or by their location at the time of assessment" (Stone et al., 1996, p. 1298).

In summary, there is considerable evidence that supports the notion of diurnal fluctuations in mood, particularly with regard to positive affect. Researchers posit that the presence of systematic patterns in positive affect and the lack of diurnal variations in negative affect suggests that positive affect is influenced, at least in part, by biological processes (Clark et al., 1989; Watson et al., 1988). Like other variables shown to demonstrate biological rhythms (e.g., body temperature, sleep-wake cycle), they argue that positive affect may be related to circadian rhythms, such that some positive feelings may follow predictable daily cycles. Conversely, they argue that negative affect is probably determined more by environmental variables (Stone et al., 1996). Although definitive causal statements may not be made, it is likely that the transient experience of mood is influenced both by environmental events and psychophysiological processes, both of which should be considered when conducting mood-related research.

CHAPTER II

METHODS

Project Rationale

Television news programming has become a regular fixture in the lives of American men, women, and children. In addition to local and national television newscasts, this decade has seen the advent of several 24-hour-a-day news channels, offering unlimited coverage of breaking news stories worldwide. Although viewing television newscasts accounts for a small percentage of overall television viewing, the nature of the information conveyed, both in terms of content and personal applicability, might be expected to impact viewers more than other types of programming. Therefore, the potential influence of television newscasts on viewers' moods and subsequent responding is worthy of scientific investigation.

The type of television news programming being considered in this investigation should be distinguished from entertainment-based programs that may also cover select news events. TV programs, such as "Entertainment Tonight" or "Hard Copy," are thought of by some as news programming, but this investigation considers them entertainment programming. The type of programming being considered in this investigation is local news broadcasts, the primary intent of which is to convey news and information to its viewers.

Affective responses to TV news has been the subject of only a handful of studies. While changes in mood have been demonstrated from pre- to post- news

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viewing (Johnston & Davey, 1997), no studies have examined the length of time that these effects are maintained. Nor have these investigations examined whether viewing television news at different times of the day impacts affective responding to that news. In addition, researchers have incorporated only extreme versions of newscasts (e.g., entirely negative or entirely positive), without the inclusion of a realistic sample of news. In the real world, viewers are rarely exposed to exclusively negative or positive newscasts, so this research attempted to increase the generalizability of its findings by examining responses to a balanced news segment that was more representative of the content portrayed in actual newscasts. Finally, past research in this area has focused primarily on anxious and depressive responding, to the exclusion of more general negative and positive affect. A broad measure of positive and negative affect, intended to measure the range of transient mood states, was, therefore, included in this investigation, as was a measure of anger.

The proposed study examined the relationships between television newscast viewing and various aspects of mood (e.g., anxiety, depression, anger), stress, and overall positive and negative affect. Additionally, the time of day one is exposed to television news that is negative and/or positive in nature was investigated, with regard to possible differences in affective responding. The duration that these effects were maintained was also examined, as were immediate and delayed memory for news items of varying content (e.g., positive vs. negative). Finally, this project investigated whether impressions of the newscaster varied as a function of the type of newscast viewed.

Hypotheses

First, it was expected that watching negative newscasts would be associated with the greatest increases in anxiety, depression, anger, and negative affect and the greatest decreases in positive affect from pre- to postviewing, followed by viewing combined (i.e., negative and positive) newscasts. Viewing positive newscasts was not expected to be associated with increases in anxiety, depression, anger, or negative affect but was expected to result in increases on the positive affect scale from pre- to postviewing.

Second, it was hypothesized that viewing negative and combined newscasts in the morning would result in greater changes in anxiety, depression, anger, and overall negative affect, from pre- to postviewing, than watching negative and combined newscasts in the evening.

The third hypothesis posited that the affective changes observed in those who viewed the negative and combined newscasts in the morning would be maintained for a longer period of time than the affective changes in those exposed to the same newscasts in the evening.

Fourth, it was hypothesized that the experience of more stressful events over the past year would be associated with greater previewing levels of anxiety, depression, anger, and negative affect. Similarly, it was expected that higher stress scores would be associated with greater changes in negative affect from pre- to postviewing of the negative and combined newscasts, but not the positive newscast. It was also expected that individuals who demonstrated high levels of affect intensity would show greater affective changes in response to watching negative, positive, and combined newscasts than would those who reported low levels of affect intensity.

It was also expected that more news items would be recalled by those who viewed an exclusively negative newscast than those who viewed the positive or combined newscast on both immediate and delayed free recall tasks. Similarly, it was hypothesized that those who viewed the combined newscasts would demonstrate greater memory for negative news items than positive ones. In addition, it was expected that more news items would be recalled by those who viewed newscasts in the morning than by those who viewed newscasts in the evening on immediate free recall but not delayed recall tasks.

Finally, it was hypothesized that respondents who viewed positive newscasts would rate the newscaster more favorably on the Newscaster Impressions Questionnaire (e.g., friendliness, professionalism) than those who viewed negative or combined newscasts.

Participants

Participants were recruited through newspaper and poster advertisements. A total of 187 phone calls were received by the student investigator from individuals interested in participating. During the initial phone contact, the study was described and participation requirements were explained. More than 80 individuals chose not to participate after hearing about the study, and the most common reason given was an inability to meet during the prescribed testing times (i.e., 8:00 a.m. or 6:00 p.m.). Following the initial phone contact, 104 individuals were scheduled to meet with the student investigator, 11 of whom failed to show for testing. Data from three additional participants had to be discarded because of a failure to return follow-up data ($n = 2$) or exposure to news following the testing session ($n = 1$).

Testing sessions took place, primarily, in small groups, ranging from 1 to 9 participants. A total of 31 testing sessions were held, averaging just under 3 subjects per group. In exchange for their participation, subjects received $15 in monetary compensation. Five dollars was provided at the conclusion of the testing session, and an additional $10 was sent to participants through the U.S. mail after their follow-up data were received by the student investigator.

Demographics

The study sample consisted of 90 participants, which included 67 women and 23 men. Each participant was randomly assigned to one of six groups, resulting in 15 subjects per condition. Participants were divided between morning and evening viewing, as well as between viewing exclusively positive, exclusively negative, or combined (i.e., both positive and negative news items) newscasts. In order to assure equal numbers of men and women in each condition, the groups were stratified according to gender. Similarly, approximately equal numbers of participants who described themselves as morning news viewers were included in each group. Participants ranged in age from 19 to 65 years, with a mean age of 39.1 years. A large majority of the sample (88.9%) was Caucasian, 55.6% of participants were married, and 45.6% of subjects held college diplomas and/or graduate degrees. Demographic data for the total study sample are presented in Table 1. Comparisons of demographic data for the three content groups (i.e., those exposed to negative news, positive news, and combined news) yielded no significant differences between groups.

Table 1

Demographic Data for the Study Sample (*n* = 90)

	n	% of Sample
Gender		
Men	23	25.6
Women	67	74.4
Ethnicity		
Caucasian	80	88.9
African-American	7	7.8
Asian-Ameican	1	1.1
International	1	1.1
Multiracial	1	1.1
Annual Income		
Less than $25,000	10	11.1
$25,000–$50,000	19	21.1
$50,000–$75,000	22	24.4
$75,000–$100,000	16	17.8
More than $100,000	23	25.6
Marital Status		
Single	27	30.0
Married	50	55.6
Divorced/Separated	10	11.1
Living with significant other	2	2.2
Employment		
Full-time	55	61.1
Part-time	12	13.3
Unemployed/retired/homemaker	12	13.3
Student	9	10.0
A.M. News Viewer		
Yes	46	51.1
No	44	48.9
	M	*SD*
Age in years	39.1	(13.7)

Mood Disturbances

Since mood measurement was a primary focus of this investigation, participants were asked whether they were currently being treated for mood-related problems, or had ever been treated in the past. Four subjects were receiving treatment at the time of testing (two for depression, one for anger, and one for multiple mood-related problems). Data from subjects who were currently being treated for mood-related problems were compared to that of the entire sample, and no significant differences were detected. Therefore, data from these subjects were included in all subsequent data analyses.

Television Viewing Habits

Participants were also asked about their television viewing habits. Just over one third of the sample reported watching 0–2 hours of TV per day, 42% reported watching 2–4 hours per day, 14% reported watching 4–6 hours of TV, and the remaining 6% reported watching 6–10 hours of television per day. Almost half of the sample (47.8%) said they watch 2 hours or less of local news programming per week, and another 26.7% reported 2–4 hours of weekly local news viewing. Weekly viewing of national, cable, and entertainment news programming was reported to be between 0 and 2 hours by most participants (71%, 84%, and 57%, respectively).

Stimulus Materials

In order to construct the stimulus tapes, 30 days worth of local morning TV newscasts were videotaped from the ABC affiliate in Detroit, Michigan (WXYZ-Channel 7). Each tape contained a 2-hour news broadcast. Ten videotapes (i.e., 20

hours of news) were randomly selected for coding by the student investigator, who then catalogued each news story for time and the presence of graphics, audio, and/or video footage. In addition, each story's content was classified as either positive or negative. All of the news stories were reported by the same female news anchor in order to avoid the potential confound introduced by using multiple news reporters.

Approximately equal numbers of positive ($n = 55$) and negative ($n = 48$) news stories were edited together onto a master rating tape. Five independent judges, recruited from an upper-level communications course at a local university, were asked to rate each news story on the News Direction Scale (Haskins, 1982). The News Direction Scale is a 7-point scale with responses ranging from *extremely bad news* (score of 1) to *extremely good news* (score of 7). The raters' responses were summed and averaged, yielding a mean rating for each of the 103 news items.

News items that were judged to be clearly negative (i.e., mean ratings of 2 or less) were selected for inclusion in the negative newscast. Likewise, news items that were rated as clearly positive (i.e., mean ratings of greater than 5) were selected for inclusion in the positive newscast. The stories with the highest and lowest ratings were chosen first, followed by the next highest and lowest, until approximately 20 stories were chosen for the positive and negative stimulus tapes. Approximately half of the negative items and half of the positive items were then randomly selected for inclusion in the balanced newscast. Story titles and mean ratings for each of the selected news items can be found in Table 2.

The selected stories were then dubbed onto a high quality Digital Video Cartridge (DVC) for editing. Using state of the art equipment, news items were edited together in random order, with a 3-second, black screen placed between stories for uniformity.

Table 2

Mean Ratings on the News Direction Scale for Items
Included on the Stimulus Newscasts

Negative Newscast Items	
Story Title	M
Four killed in car crash	1.17
Child hit in drive-by shooting*	1.17
Train crash death toll	1.17
Suspicious baby death	1.17
Bride dies in giant wave accident	1.17
Librarian murder	1.33
Slain police officers	1.33
London train collision*	1.50
Arrest in sex slave case*	1.50
Dead body found*	1.50
Suspects in school kids' rapes	1.60
Blue Angels plane crash*	1.67
Elderly man attacked*	1.83
Sketch of rapist*	1.83
Baby kidnapped*	1.83
Man hit by car in police chase*	2.00
Student puts chemicals in teacher's drink*	2.00
Witch stabbed by husband*	2.00

Positive Newscast Items	
Story Title	M
Players give coats to homeless*	6.67
Experimental drug for leukemia	6.50
Domino world record*	6.17
Prostate cancer advances*	6.17
"Doctors Without Borders" wins peace prize*	6.17
Berlin wall anniversary*	5.83
Exercise reduces breast cancer risk*	5.83
Sales tax holiday	5.83
Letter delivery performance	5.83
Nobel prizes awarded*	5.67
Dream cruise 2000	5.67
Heart disease prevention*	5.50
Soy cereal on the market	5.50
Polar bear at zoo*	5.50
Candyland 50th anniversary*	5.50
New crime laws	5.50
New day care laws*	5.33

Table 2—Continued

Positive Newscast Items	
Story Title	*M*
Local broadcasting exhibit	5.33
Wooly Mammoth discovered	5.33
Free depression screening	5.17
Flu vaccination program*	5.17
Photographers remembers stadium	5.17

Note. Scores range from 1–7, where 1 = extremely bad news and 7 = extremely good news.
* Denotes inclusion on the Combined Newscast.

The negative stimulus tape contained 18 news items, averaging 33.1 seconds in length. In addition to the news anchor reading the news, audio and video footage accompanied seven of the stories, and eight additional stories contained video footage alone. Video graphics appeared in two of the items, while two others contained no graphic, audio, or visual material. The negative stimulus tape was 10 minutes and 26 seconds in length.

The positive stimulus tape contained 22 news items, averaging 25.8 seconds in length. Audio and video footage accompanied two of the stories, while video footage alone was seen on 14 other items. Three news stories contained visual graphic displays, while three news items included no graphic, audio, or video material. The positive stimulus tape was 10 minutes and 18 seconds in length.

Finally, the combined stimulus tape contained 22 news items. The average story length was 26.5 seconds. Three stories contained audio and video footage, 12 more items featured video footage only, and 2 stories used visual graphic displays. No video, audio, or graphic material was present on five of the news items. The order of presentation was equally balanced on this stimulus tape, such that a positive news

story appeared before and after each negative news story. The combined stimulus tape was 10 minutes and 23 seconds in length.

Measures

Demographic/Background Information and Television Viewing Habits (see Appendix C). This form was developed for use in the present research project. Participants answered questions about age, race, income level, and marital status, in addition to questions regarding television viewing habits.

Newscaster Impressions Questionnaire (see Appendix C). This brief questionnaire was developed for the purpose of the proposed project in order to assess respondents' familiarity with and impressions of the newscaster. At postviewing, participants were asked to rate a series of statements, using a 10-point scale, on such dimensions as friendliness, believability, and professionalism (e.g., *Compared to other newscasters I have seen, this newscaster was*: 1 = *the most friendly,* 10 = *the least friendly*). They were also asked whether they had seen the newscaster before the testing session. Responses from this measure were used to determine whether perceptions of the newscaster varied as a function of the content of news viewed.

The Beck Depression Inventory. The BDI (Beck et al., 1961) is a 21-item self-report measure of depressive symptomatology. Subjects are given four choices per item, and they rate whether they have experienced each symptom during the past 7 days. For example, the first question reads: *I do not feel sad* (0 [zero]); *I feel blue or sad* (1); *I am blue or sad all the time and I can't snap out of it* (2); *I am so sad or unhappy that I can't stand it* (3). Each item receives a score of 0, 1, 2, or 3, and the

sum of these scores yields a total score. Higher scores on the BDI are suggestive of more significant depressive symptomatology.

The original BDI was developed in 1961, and it was revised almost two decades later in order to refine the psychometric properties of the instrument (Beck, Rush, Shaw, & Emery, 1979). Extensive reliability and validity data have been published on the BDI (for a complete review, see Beck, Steer, & Garbin, 1988). In a meta-analysis of 25 published papers using the BDI, internal consistency estimates ranged from .73 to .95 for several populations (e.g., schizophrenics, college students, depressed patients). Stability estimates from 10 studies reported coefficients ranging from .60 to .83 for nonpsychiatric patients and from .48 to .86 for psychiatric patients. These data suggest that the BDI is a highly reliable instrument in detecting depressive symptomatology and sensitive to changes in depressive symptoms as well. Beck and his colleagues (1988) also reviewed concurrent validity data for the BDI. Correlation coefficients between scores on the BDI and other measures of depressed affect, such as the Hamilton Psychiatric Rating Scale for Depression (Hamilton, 1960), the Zung Self-Reported Depression Scale (Zung, 1965), and the Minnesota Multiphasic Personality Inventory Depression Scale (McKinley & Hathaway, 1943), have ranged from .41 to .86. The most significant relationship has been demonstrated between BDI scores and clinicians' ratings of depression, with a reported correlation of .96 (Beck, Rial, & Rickels, 1974). The relationships reported in numerous investigations, therefore, demonstrate that the BDI is a valid measure of depressive symptomatology.

The BDI was used to measure depression levels before and after viewing television newscasts. Participants were asked to fill out the BDI on six occasions: at pretesting, posttesting, and at four follow-up periods after the testing session.

Because repeated measurement was conducted over a 24-hour period, the directions

for the BDI were modified slightly. Instead of asking participants to rate whether

they had experienced each item during the past 7 days, they were asked to rate

whether they were experiencing each item currently.

State-Trait Anxiety Inventory State Anxiety Scale. The STAI-State

(Spielberger, 1983) is a 20-item scale that assesses current anxious affect. State

anxiety is comprised of subjective feelings of tension, apprehension, nervousness, and

worry, as well as physiological arousal. Respondents are instructed to report how

they feel "right now, at this moment," rating each item on a 4-point scale (e.g., 1 =

not at all; 4 = *very much so*). Higher scores are indicative of greater levels of state-

related anxiety.

Dozens of studies have demonstrated strong psychometric properties of the

STAI-State (e.g., Kabacoff, Segal, Hersen, & Van Hasselt, 1997; Ramanaiah,

Franzen, & Schill, 1983; Spielberger, 1983). Internal consistency, as measured by

Alpha coefficients and item-remainder correlations, has been shown to be quite high.

In large, independent samples of students, working adults, and military recruits,

Alpha reliability coefficients were .90 and higher, and 19 of the 20 scale items had

item remainder correlations of .30 or higher (Spielberger & Sydeman, 1994). Test-

retest stability was relatively low, which was expected since the scale is designed to

measure transitory changes in anxiety. Items on the STAI-State met stringent validity

criteria during test development, showing significant correlations with two widely

used measures of anxiety, the Manifest Anxiety Scale (Taylor, 1953) and the Anxiety

Scale Questionnaire (Cattell & Scheier, 1963). Construct validity has also been

demonstrated for the measure, with respondents scoring significantly higher on the

STAI-State during stressful conditions (e.g., examination conditions) than during nonstressful or relaxing conditions (Spielberger & Sydeman, 1994).

This measure was used to compare state anxiety levels before and after viewing newscasts that contained entirely negative, entirely positive, or combined information. Participants completed the STAI-State at pretesting, posttesting, and at four additional times following the testing session.

State-Trait Anger Scale. The STAS-State (Spielberger, Jacobs, Russel, & Crane, 1983) is a 10-item scale (short form) that assesses the emotional state of anger. State anger is defined as subjective feelings of tension, annoyance, irritation, or rage that vary in intensity. Items are rated on a 4-point intensity scale, ranging from *not at all* to *very much so*. Responses are summed, and higher scores are indicative of greater levels of state anger.

The original STAS-State was comprised of 15 items, and it was found to be highly correlated (.95) with the 10-item abbreviated state scale. This significant association suggests that the short form provides essentially the same information as the longer form; therefore, the short form was chosen for inclusion in this project. The STAS-State has demonstrated strong internal consistency, obtaining a Cronbach's alpha coefficient of .93 for a large sample of military recruits (Spielberger et al., 1983). Test-retest stability was low (.27 for males, .21 for females), which was expected since the scale is designed to measure transitory changes in anger. Concurrent validity was evidenced by moderate positive correlations between the STAS and three other measures of hostility, the Buss-Durkee Hostility Inventory (Buss & Durkee, 1957), the Hostility Scale (Cook & Medley, 1954), and the Overt Hostility Scales (Schultz, 1954) of the Minnesota Multiphasic Personality Inventory.

This measure was used to compare state anger levels before and after viewing newscasts of varying content. Participants completed the STAS-State at pretesting, posttesting, and at four additional times following the testing session.

The Positive and Negative Affect Schedule. The PANAS (Watson et al., 1988) is a 20-item instrument that is comprised of two 10-item scales: positive affect (PA) and negative affect (NA). Respondents rate the extent to which they are feeling each mood state (e.g., distressed, excited, nervous) on a 5-point scale, ranging from *very slightly or not at all* to *extremely*. In addition to assessing current mood, the PANAS may be used to measure mood over the past day, week, few weeks, year, and in general. Item scores (from 1 to 5) are summed for each scale to yield a PA score and a NA score, where higher scores indicate more positive or negative affect for the time period being rated.

The PANAS has undergone rigorous reliability and validity analyses, which have demonstrated impressive psychometric properties of the scale (Egloff et al., 1995; Kennedy-Moore, Greenberg, Newman, & Stone, 1992; Watson et al., 1988). Using large samples of respondents, internal consistency reliabilities were found to be quite high for both scales, with alpha coefficients ranging from .86 to .90 on the PA scale and .84 to .87 on the NA scale. The correlation between the two scales, however, was found to be quite low (−.09 to .23), suggesting that the scales are largely independent of each other. The reliability of the scales remains consistent across time frames being assessed (e.g., current, past week, past year). Test-retest reliability coefficients at 2 months ranged from .47 (rating current mood) to .68 (rating mood in general) on the PA scale and from .39 (rating past day) to .71 (rating mood in general) on the NA scale. Not surprisingly, the test-retest stability tended to increase as the time frames being rated lengthened.

With regard to concurrent validity of the PANAS, the measure has not been subjected to direct comparisons with other commonly used mood measures, such as the Nowlis Mood Adjective Checklist (Nowlis, 1965) or the Profile of Mood States (McNair et al., 1971). However, scale development of the PANAS began using 60 mood descriptors, most of which are included in other popular mood measures. Using data obtained from large and representative samples, multiple factor analyses were conducted, and based on stringent inclusion criteria, 20 mood descriptors resulted (Watson et al., 1988).

To examine the relationship between PANAS scores and scores on tests of related constructs, Watson et al. (1988) compared the PANAS to the BDI and the STAI-State. Using a sample of 880 respondents, the BDI was found to be moderately correlated with the PANAS negative affect scale (.56) and negatively correlated with the positive affect scale (-.35). Similarly, correlations between the STAI-State and the NA and PA scales were .51 and -.35, respectively. Watson et al. (1988) point out that while these correlations are substantial, they do not indicate that the measures are interchangeable. Rather, they appear to be assessing slightly different constructs, where both the BDI and the STAI appear to involve moderate to high negative affect and low positive affect.

In the present investigation, the PANAS was used to measure levels of positive and negative affect before participants viewed the stimulus tape, immediately after they viewed the stimulus tape, and at four additional periods following the testing session.

The Life Events Inventory. The LEI (Cochrane & Robertson, 1973) is a 55-item retrospective instrument that assesses the amount of stress that has been present in a person's immediate environment during the preceding year. Each item has a

weighted score, according to severity of the event, and endorsed items are summed to yield a total score. Higher scores are indicative of greater stress during the past year.

The LEI was developed based on another measure of life stresses, the Schedule of Recent Experiences (Holmes & Rahe, 1967). Some items were adopted from the SRE, while others were constructed based on a sample of 145 respondents, who reported the occurrence of stressful events during the past year. The scale resulted in 55 items, divided into three sections: items that apply to all respondents ($n = 35$); items that apply to married (past or present) respondents only ($n = 16$); and items that apply to never-married respondents ($n = 4$). Weights for the items were derived by having three large groups of respondents rate the amount of turmoil, upheaval, and social readjustment caused by various stressful events. Using the item *marriage* as a base, with a score of 50, scale items were comparatively rated from zero to 100. For example, the experience of divorce received a rating of 75.

The LEI has demonstrated fairly strong internal consistency. Reliability coefficients, based on Spearman rank correlations between the rank-order of the mean ratings assigned by three groups of respondents, were found to be quite high: .82 for psychiatrists and patients, .94 for psychiatrists and students, and .74 for patients and students (Cochrane & Robertson, 1973). Test-retest reliability information has not been provided for the LEI, nor has information about how this measure compares to other measures of similar constructs.

Participants were asked to complete the LEI during the testing session, just prior to viewing the newscast. This measure was used to determine whether higher levels of stress were associated with more anxiety, depression, anger, and/or negative

affect at pretesting, and whether more stressful events was predictive of differential responding to hearing bad news.

Affect Intensity Measure. The AIM (Larsen & Diener, 1987) is a 40-item scale that assesses affect intensity, which may be described as an individual's average magnitude of emotional responsiveness. Respondents indicate how they react to typical life events (e.g., *When I solve a small personal problem, I feel euphoric*) using a 6-point Likert scale (1 = *never* and 6 = *always*). Items on the AIM are summed, and higher scores are indicative of greater affect intensity.

Test construction for the AIM consisted of narrowing down an initial item pool of 342 items. Independent raters evaluated the scale items, and responses from 556 college students were subjected to multiple factor analyses for item reduction. Forty items were retained for the final version of the AIM, with 5 highly intercorrelated factors accounting for the majority of the variance (Larsen, 1984, as cited in Larsen & Diener, 1987). A second-order factoring suggested that one major dimension underlies the 40-item set. Subsequent confirmatory factor analyses, using large sample sizes of 673 and 631 subjects, yielded a three-factor model (i.e., Positive Affectivity, Negative Intensity, and Negative Reactivity), which explains roughly 80% of the common variance (Bryant et al., 1996). Negative Intensity refers the characteristic strength of the negative emotions people feel, while Negative Reactivity describes the characteristic strength of people's emotional responses to emotion-evoking stimuli. In other words, intensity and reactivity refer to dispositional versus situational emotionality, respectively. Positive Affectivity combines intensity and reactivity to describe the characteristic strength of positive emotions people feel, both in general and in response to emotion-evoking stimuli (Bryant et al., 1996).

Test-retest reliabilities for the AIM at 1-, 2-, and 3-month intervals were .80, .81, and .81, respectively (Larsen, 1984, as cited in Larsen & Diener, 1987). Across four separate samples, the AIM obtained Cronbach's alpha coefficients of .90 to .94, which demonstrates strong internal consistency. Concurrent validity of the AIM has been evidenced by moderate correlations with parental and peer reports of affect intensity, as well as with other related constructs like specific daily moods and general mood variability (Larsen, 1984, as cited in Larsen & Diener, 1987). Other variables shown to be moderately correlated with the AIM include extraversion, emotionality, psychosomatic distress, and an increased risk for developing cyclothymia and bipolar affective disorder. However, individuals demonstrating high affect intensity have not reported less happiness on measures of life satisfaction. In a study of 242 subjects, significant gender and age effects were demonstrated, with women and younger individuals showing the highest levels of affect intensity (Diener, Sandvik, & Larsen, 1985).

Participants were asked to complete the AIM during the testing session, just prior to viewing the newscast. This measure was used to determine whether higher affective intensity was predictive of differential responding to hearing good and/or bad news.

Free Immediate Recall/Delayed Recall Tasks. Participants were asked to list as many news items as they could remember from the stimulus tape they viewed during the testing session. This questionnaire was completed on two occasions: at postviewing and at the first rating period following the testing session. The number of news items recalled on the immediate and delayed recall tasks were computed to determine whether time of day or specific news content impacted memory for that news.

Daily Activities Log. This form was developed for the purpose of the proposed study. Because other measures of daily events are lengthy, include items beyond the scope of this project, and are intended to be completed only once per day, they were not deemed appropriate for this investigation. At each rating period following the testing session, participants were asked to list any events that occurred since the last rating period that may have impacted their moods. When participants listed events that were out of the ordinary and may likely have confounded mood ratings, decisions were made about whether to discard their follow-up data (see Missing and Excluded Data).

News Direction Scale. The News Direction Scale (Haskins, 1982) is a 7-point scale designed for content analysis of the negative-positive dimension of news. News items are classified along two dimensions: first, news items are rated as bad, neutral, or good; second, items are given ratings of goodness-badness degrees along a 7-point scale, where 1 = *extremely bad news* and 7 = *extremely good news.* Bad news is defined as information about an event that *would be interpreted by most people* as negative (e.g., unpleasant, conflictual, gruesome, abusive), while good news is defined as information that *would be interpreted by most people* as positive (e.g., constructive, reassuring, pro-social, altruistic). Items are classified as neutral only if no negative or positive tone is perceived or if the negative and positive interpretations seem absolutely balanced (Haskins, 1982).

Reliability analyses on the News Direction Scale (Haskins et al., 1984) were conducted with 18 coders, who represented varying age groups and education levels. Analyses yielded a mean test-retest reliability coefficient of .88, with ratings taken from 2 days to 1 week apart. Intercoder reliability analyses yielded a mean correlation coefficient of .83 among all pairs of coders (n = 153), and alpha coefficients for

groups of two coders and six coders were .92 and .96, respectively. Because of the difficulty associated with determining the validity of subjective content coding, coupled with a lack of other measures designed to assess the same construct, validity analyses were not conducted. However, the scale was found to be highly reliable for content analysis of the negative-positive dimension of news (Haskins et al., 1984).

Independent judges used the News Direction Scale to rate the content of more than 100 news stories. Ratings were used to select stories for inclusion on the negative, positive, and combined stimulus newscasts.

Design and Procedure

This descriptive study employed a one-session quantitative design with four follow-up mood assessments that incorporated repeated self-report measures. The total length of participation ranged from 12 to 24 hours, which included a 1-hour testing session and four follow-up mood ratings, made at approximately 3-hour intervals following the testing session.

Each participant who met the study's inclusionary criteria was assigned to one of six independent conditions: morning/positive news, morning/negative news, morning/combined news, evening/positive news, evening/negative news, and evening/combined news. In other words, subjects were divided between morning and evening viewing, as well as between viewing exclusively positive, exclusively negative, or combined (both positive and negative news items) newscasts. The study sample was stratified along two dimensions: gender and morning news viewing. That is, the student investigator assigned an equal number of male participants and an equal number of morning news viewers to each of the six experimental conditions.

Participants met the student researcher at a predetermined testing site in Southfield, Michigan. The testing room was equipped with a 24-in. television set, videocassette recorder (VCR), and several chairs. Participants were asked to meet the student investigator at either 8:00 a.m. or 6:00 p.m., depending upon their group assignments, and testing sessions took place in small groups. They were asked to refrain from watching and/or listening to the news on the day of testing (e.g., before 8:00 a.m. for morning participants; before 6:00 p.m. for evening participants).

Upon arrival, participants completed several measures: a consent form (see Appendix A), a demographic/background information form, the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory-State (STAI), the State-Trait Anger Scale-State (STAS), the Life Events Inventory (LEI), the Affect Intensity Measure (AIM), and the Positive and Negative Affect Scale (PANAS). They were then shown one of three 10-minute videotaped newscasts that contained exclusively negative, exclusively positive, or combined content. Immediately following the conclusion of the newscasts, they completed the BDI, the STAI, the STAS, and the PANAS again. They were also asked to complete a test of immediate free recall, which required them to list as many news items as they could recall from the newscast. Finally, participants completed the Newscaster Impressions Questionnaire that assessed their familiarity with and impressions of the newscaster shown on the stimulus tapes.

Morning participants were asked to refrain from consuming news, whether through radio, television, or newspaper for the rest of the day. Evening participants were asked to avoid watching, listening, or reading the news for the rest of the evening, the next morning, and afternoon. Participants in the morning group were asked to complete the BDI, STAI, STAS, and the PANAS at four separate times

during the day, at approximately 3-hour intervals following the testing session. Table 3 outlines the time commitments required of morning and evening participants. Those in the evening group were asked to complete the BDI, STAI, the STAS, and PANAS approximately 3 hours after the testing session, and three additional times the next day. During the first rating period after the testing session, participants completed a delayed recall memory task by listing each item they could recall from the newscast viewed during the testing session. Photocopies of the measures were provided to participants, along with preaddressed, prestamped envelopes by which they returned the follow-up measures to the student investigator upon completion. Just as participants were asked to refrain from talking to other study participants during the testing session, they were also reminded to refrain from discussing the study with other participants as they left the testing site.

Table 3

Time Commitments for Morning and Evening Viewers

Rating Period	Morning Viewers	Evening Viewers
Previewing	8:00 a.m.	6:00 p.m.
Newscast	8:20 a.m.	6:20 p.m.
Postviewing	8:30 a.m.	6:30 p.m.
Follow-up #1	12:00 p.m.	9:00 p.m.
Follow-up #2	3:00 p.m.	8:00 a.m.
Follow-up #3	6:00 p.m.	12:00 p.m.
Follow-up #4	9:00 p.m.	3:00 p.m.

Scoring

All data were entered into a spreadsheet in SPSS, version 6.0 for the Macintosh, and data were analyzed using the SPSS program.

Missing and Excluded Data

As in all research, missing responses were occasionally detected in this project. When demographic questions were not provided by participants, descriptives and frequencies were computed without the data. When specific mood questions were left blank, the missing data were replaced with the series mean for that variable, a common and accepted practice in statistical analyses (Raymond & Roberts, 1987).

Before analyzing the follow-up data, it was important to review the Daily Activity Logs that were included in each follow-up rating packet. Participants were asked to list any events that had occurred since the last rating period that may have impacted their moods. Typical responses included the following activities: *ate dinner, went shopping, watched TV, played on computer, worked, talked on phone, and studied for test.* One participant listed *read newspaper* on each of the four Daily Activity Logs. Since participants were asked to refrain from reading, watching, or listening to the news until all follow-up data had been provided, the subject was disqualified from the study, and the data were discarded. Another subject listed *found out my friend might be dying* on follow-up #3, which accompanied significantly elevated ratings on the Negative Affect and the State-Trait Anxiety scales. In order to eliminate the potential confound of this event, data from this subject for the last two rating periods were not included in follow-up analyses.

CHAPTER III

RESULTS

Pretesting Mood Scores

Before specific hypotheses were subjected to statistical analysis, pretesting
means for each mood measure were examined and compared for the six independent
treatment conditions. Analysis of variance procedures and follow-up pairwise
comparison tests (i.e., Tukey-HSD) detected significant differences between two
groups on the BDI and STAI at pretesting. First, mean scores on the BDI at
pretesting for the six groups ranged from 3.82 (SD = 3.7) to 9.96 (SD = 6.3). The
ANOVA detected a significant difference (F (5, 84) = 3.12, p = .01), and pairwise
comparisons showed that Group 4 (negative/evening) reported significantly more
depressive symptoms at pretesting than did Group 3 (combined/morning). Similarly,
STAI pretesting scores were subjected to an ANOVA, where group was the
independent factor, and a significant effect was found (F (5, 84) = 3.17, p = .01).
Tukey-HSD tests showed that pretesting anxiety levels were significantly higher for
Group 6 (combined/evening) than they were for Group 3 (combined/morning).
Because all groups were not equal at pretesting on the BDI and STAI, despite
random assignment to groups, ANCOVA analyses were carried out on these
measures in subsequent analyses.

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Previewing to Postviewing Mood Changes

Table 4 provides means and standard deviations for each content group

(negative vs. positive vs. combined) on the BDI, STAI, STAS, NA, and PA scales at

previewing and postviewing. To better understand how mood scores varied as a

function of news content and time of testing, change scores (previewing minus

postviewing) on the STAI, BDI, STAS, Negative Affect, and Positive Affect scales

were subjected to a content (negative vs. positive vs. combined) × time of testing

(8:00 a.m. vs. 6:00 p.m.) ANOVA.

Table 4

Previewing and Postviewing Means and Standard Deviations
BDI, STAI, STAS, PA, and NA Scales

	Negative Viewers		Positive Viewers		Combined Viewers	
	M	(SD)	M	(SD)	M	(SD)
BDI previewing	8.4	(5.3)	6.1	(4.6)	4.7	(3.8)
BDI postviewing	8.5	(6.5)	5.0	(4.7)	4.6	(3.8)
STAI previewing	31.0	(7.2)	31.8	(6.0)	30.9	(8.7)
STAI postviewing	38.8**	(12.4)	26.9**	(5.5)	31.3	(9.9)
STAS previewing	10.6	(1.9)	10.3	(0.7)	10.2	(0.9)
STAS postviewing	11.9	(3.7)	10.1	(0.4)	10.3	(0.8)
NA previewing	11.8	(3.8)	11.3	(1.9)	11.7	(4.2)
NA postviewing	14.6*	(5.9)	10.5**	(0.9)	12.1	(4.0)
PA previewing	34.4	(6.9)	35.7	(7.1)	34.9	(7.3)
PA postviewing	32.2	(8.0)	36.2	(7.6)	34.7	(8.2)

*Statistically significant change at $p < .05$.
**Statistically significant change at $p < .01$.

Inspection of content main effects showed significant differences in anxiety

(F (6, 82) = 15.9, p < .01), negative affect (F (5, 84) = 6.41, p < .01), and positive

affect (F (5, 84) = 3.49, p = .03) change scores in those viewing the three types of

newscasts. Pairwise comparisons showed that negative news viewers reported

significantly larger increases in anxiety (M = 7.8 point increase, SD = 11.6) following

the newscast than did the combined (M = 0.4 point increase, SD = 8.7) or positive

(M = 4.8 point decrease, SD = 5.5) news viewers, and the difference between these

changes reached statistical significance (p < .05). Likewise, Tukey HSD tests yielded

a significant difference between negative and positive news viewers on the Negative

Affect scale, with negative affect scores increasing an average of 2.8 points (SD =

5.9) for those exposed to negative news and decreasing an average of 0.8 points (SD

= 1.4) for those exposed to positive news. Conversely, positive affect scores

decreased (M = 2.3 points, SD = 5.7) in those who viewed negative news and

increased modestly (M = 0.5 points, SD = 2.7) in those who viewed positive news,

and the difference between these changes was statistically significant (p < .05).

ANOVA procedures yielded no significant differences between content groups on the

BDI or the STAS.

In order to determine whether the changes in anxiety, negative affect, and

positive affect reported after watching a newscast were statistically significant,

correlated samples t tests were computed for each content group. Because multiple t

tests were run, which increased the probability of committing a Type I error, t scores

were compared with a conservative Bonferroni-t critical value to determine

significance. STAI scores were found to increase significantly from previewing to

postviewing for those who watched the negative newscast (t (29) = 3.61, p < .01),

and they were found to decrease significantly for those who saw the positive

newscast (t (29) = 4.86, p < .01). Similarly, viewers of negative news showed significant increases in negative affect (t (29) = 2.57, p < .05), whereas viewers of positive news showed significant decreases in negative affect (t (29) = 3.34, p < .01). Pre- to postviewing scores on the Positive Affect scale were not shown to be statistically significant for either the negative news viewers (t (29) = 2.19, p = ns) or the positive news viewers (t (29) = 1.07, p = ns). Viewers of the combined newscast demonstrated no significant mood changes after watching the news (p > .05).

The two-factor (content × time of testing) ANOVA also yielded a significant time of testing main effect for the Positive Affect scale (F (5, 84) = 5.1, p = .03). Irrespective of the type of news viewed, evening participants' pre- to postviewing PA scores showed a larger decrease (M = 1.7 points, SD = 4.9) than did morning participants' (M = –0.4 points, SD = 3.9), and this difference was statistically significant at the p < .05 level. No time of testing effects were detected for any of the other mood measures. Likewise, ANOVA procedures yielded no interaction effects (content × time of testing) for any of the mood measures.

Duration of Mood Changes

The previous analysis compared change scores for each of the six treatment conditions, yielding both content and time of testing, between group, main effects. Also of interest, however, were the within group effects associated with repeated measurement, which would detect significant differences in mood scores from one rating period to the next. Specifically, for each dependent measure, a three-factor repeated measures ANOVA was conducted on previewing, postviewing, and the four follow-up rating period scores, where content and time of testing were, again, the

independent factors. ANCOVA procedures controlled for the differences in pretesting scores on both the STAI and the BDI.

Significant interaction effects for content of news and rating period were found for STAI scores (F (8, 80) = 6.22, $p < .01$), NA scores (F (10, 79) = 3.34, $p < .01$), and BDI scores (F (8, 81) = 4.13, $p < .01$), while a significant interaction between time of testing and rating period was found for PA scores (F (5, 84) = 9.34, $p < .01$). A second-order interaction (content × time of testing × rating period) was also detected for BDI scores (F (8, 81) = 2.15, $p < .05$). Because interaction effects were evident, main effects have been interpreted with caution, and are only presented to help further explain the nature of the interactions.

First, a significant interaction was demonstrated between content of news and rating period on the STAI, and Figure 1 illustrates this effect. In order to better understand the nature of the interaction, multiple comparison procedures were computed via correlated samples t tests between difference scores for positive and negative viewers at each rating period. Because multiple t tests were run, t scores were compared with a conservative Bonferroni-t critical value to determine significance. As expected, the difference between negative and positive viewers' ratings on the STAI at posttesting was significantly different than their differences at pretesting (t (29) = 5.38, $p < .01$), follow-up #1 (t (29) = 3.96, $p < .01$), follow-up #2 (t (29) = 3.31, $p < .05$), follow-up #3 (t (29) = 4.27, $p < .01$), and follow-up #4 (t (29) = 5.22, $p < .01$). That is, the difference between negative and positive viewers' anxiety ratings immediately after watching their respective newscasts was much larger than the differences in their anxiety scores at all other rating periods. In addition, the difference between negative and positive viewers' anxiety ratings at follow-up rating period #1 was found to differ significantly from the difference in
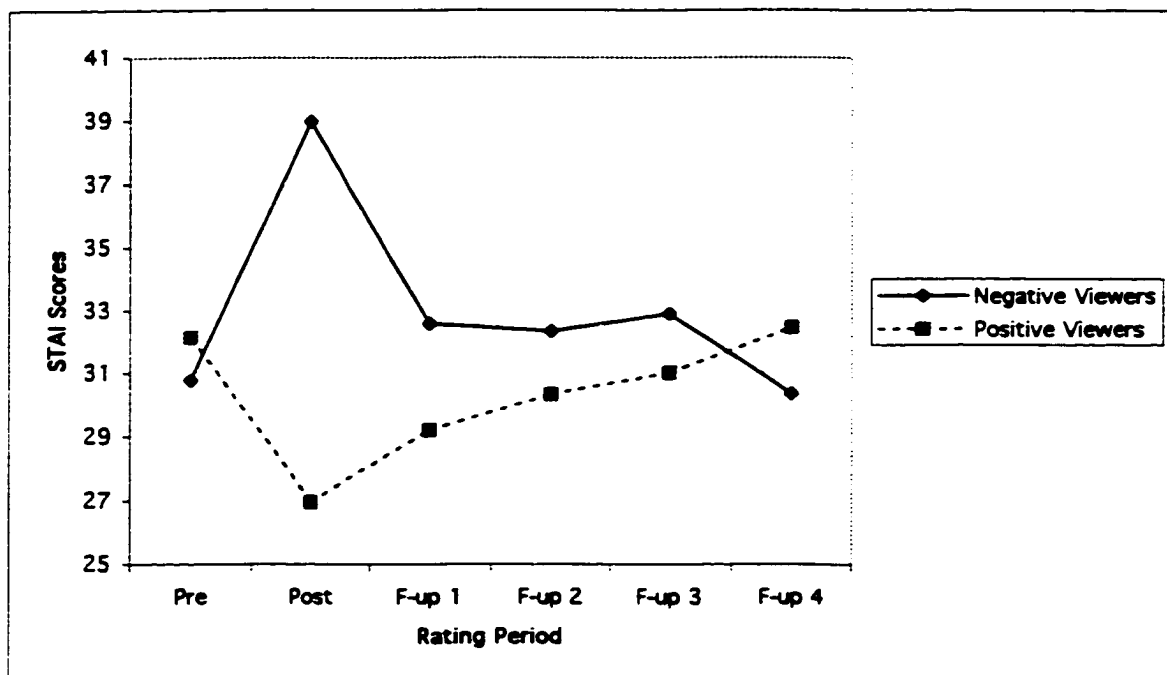
Figure 1. Content of News × Rating Period Interaction for STAI Scores for Negative and Positive News Viewers.

their ratings at follow-up rating period #4 (t (29) = 3.49, p < .05). Specifically, there was a larger discrepancy in anxiety ratings between negative and positive viewers at the first follow-up rating period than there was at the fourth follow-up rating period. Further, the direction of the STAI differences changed from the first to the fourth rating periods, such that negative viewers had higher anxiety ratings at follow-up #1 and slightly lower anxiety ratings at follow-up #4 than did the positive viewers.

In an effort to determine how long anxiety levels remained elevated in negative viewers and deflated in positive viewers following the testing session, correlated samples t tests (Bonferroni-t) were computed between previewing scores and the four follow-up rating periods for both negative and positive viewers

separately. For those exposed to negative news, no differences existed between previewing anxiety scores and ratings made at the first follow-up rating period (t (29) = 1.25, p = ns), which suggests that the elevations in anxiety experienced after watching a negative newscast were not maintained 3 hours later. Similarly, previewing anxiety scores were not significantly different from anxiety ratings made at the first follow-up period for those who saw the positive newscast (t (29) = 2.46, p = ns). This suggests that decreases in anxiety, resulting from exposure to positive news, did not persist 3 hours after the testing session.

A similar effect may be described for ratings on the Negative Affect scale, and Figure 2 illustrates the interaction between content and rating period. Correlated samples t tests, using the Bonferroni-t critical value, yielded several significantly different pairs. The difference between NA ratings made by negative and positive viewers at postviewing was found to differ significantly from the differences in their ratings at previewing (t (29) = 3.31, p < .05), the first follow-up rating period (t (29) = 3.25, p < .05), and the fourth follow-up rating period (t (29) = 3.83, p < .05). The data show much larger differences at postviewing than at any other rating period, with negative viewers reporting significantly more negative affect than positive viewers after watching their respective newscasts, and a narrowing of differences thereafter.

To better understand how long negative affect levels remained elevated in negative viewers and reduced in positive viewers after the testing session, correlated samples t tests (Bonferroni-t) were computed between previewing scores and the four follow-up rating periods for negative and positive viewers separately. First, previewing NA scores were not significantly different from anxiety ratings made at the first follow-up period for those who saw the negative newscast (t (29) = 0.00,
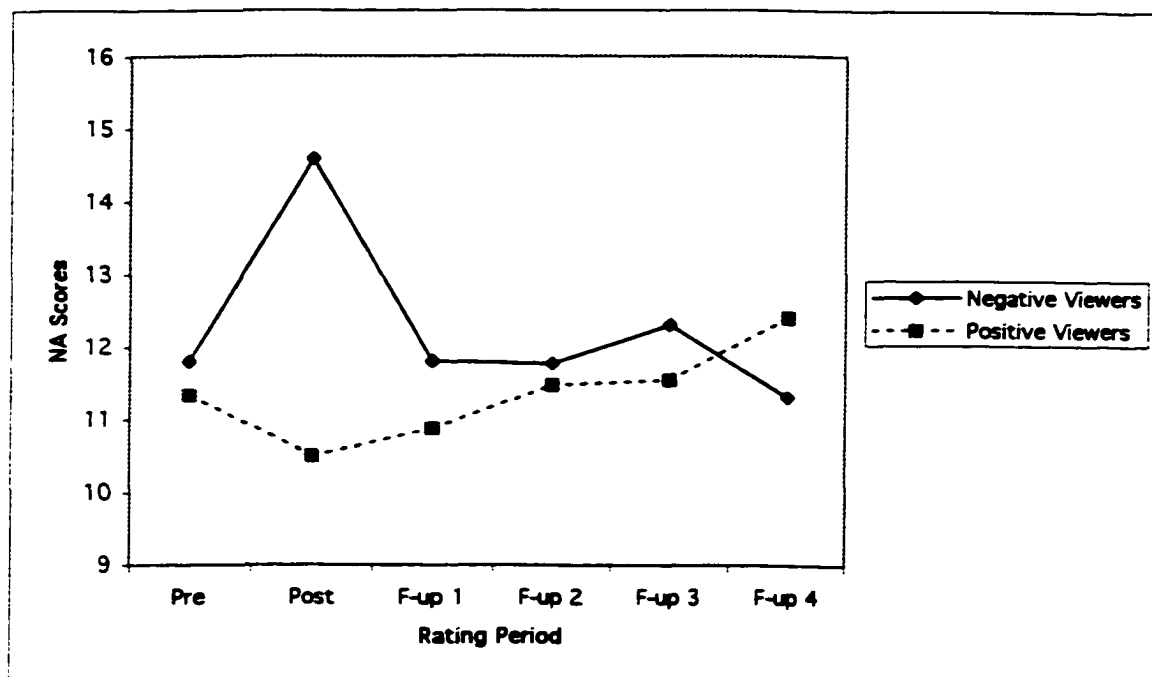
Figure 2. Content of News × Rating Period Interaction for Negative Affect Scores for Negative and Positive News Viewers.

$p > .05$). This suggests that elevations in negative affect, resulting from exposure to negative news, were not maintained three hours after the testing session. Similarly, for those exposed to positive news, no differences existed between previewing NA scores and ratings made at the first follow-up rating period (t (29) = 1.47, p = ns), which suggests that the decreases in negative affect experienced after watching a positive newscast did not persist 3 hours later.

Another interaction was evident for the Positive Affect scale, although this interaction was between time of testing and rating period. This suggests that the differences between morning and evening viewers' scores on the PA scale were not equal at all rating periods. Multiple comparison tests, using correlated samples t tests

(Bonferroni-t), yielded significant differences between the difference in morning and evening viewers' PA scores at postviewing and both the third follow-up rating period (t (44) = 3.57, p < .05) and the fourth follow-up rating period (t (44) = 4.09, p < .01). Similarly, the difference between morning and evening viewers' PA scores at the first follow-up rating period differed significantly from the differences in their scores at follow-up #2 (t (44) = 3.35, p < .05), follow-up #3 (t (44) = 4.48, p < .01), and follow-up #4 (t (44) = 4.71, p < .01). Inspection of the data found in Figure 3 suggests that the difference in positive affect in morning and evening viewers was much larger at the first follow-up rating period than it was at the second, third, or fourth follow-up periods. Likewise, differences in PA scores between morning and evening viewers were significantly greater at posttesting than they were at the third and fourth follow-up rating periods. It can also be seen that, irrespective of the type of news they viewed, morning viewers reported higher levels of positive affect at all rating periods except the fourth follow-up, when evening viewers' PA scores were higher. The time of testing × rating period interaction is particularly important as it relates to diurnal mood fluctuations in positive affect. This will be explored further in the following section (see Diurnal Mood Patterns).

Finally, both first- and second-order interactions were detected for BDI scores. Not only was there a content × rating period interaction for BDI scores, but, more importantly, the form of the content × rating period interaction was not the same for morning and evening viewers. Figures 4 and 5 illustrate the patterns of responding by morning and evening viewers on the BDI, where charted data represent negative viewers' scores and positive viewers' scores at each rating period. It can be seen that the differences in BDI scores between those who saw negative versus positive news in the morning remain consistent across all rating periods. For
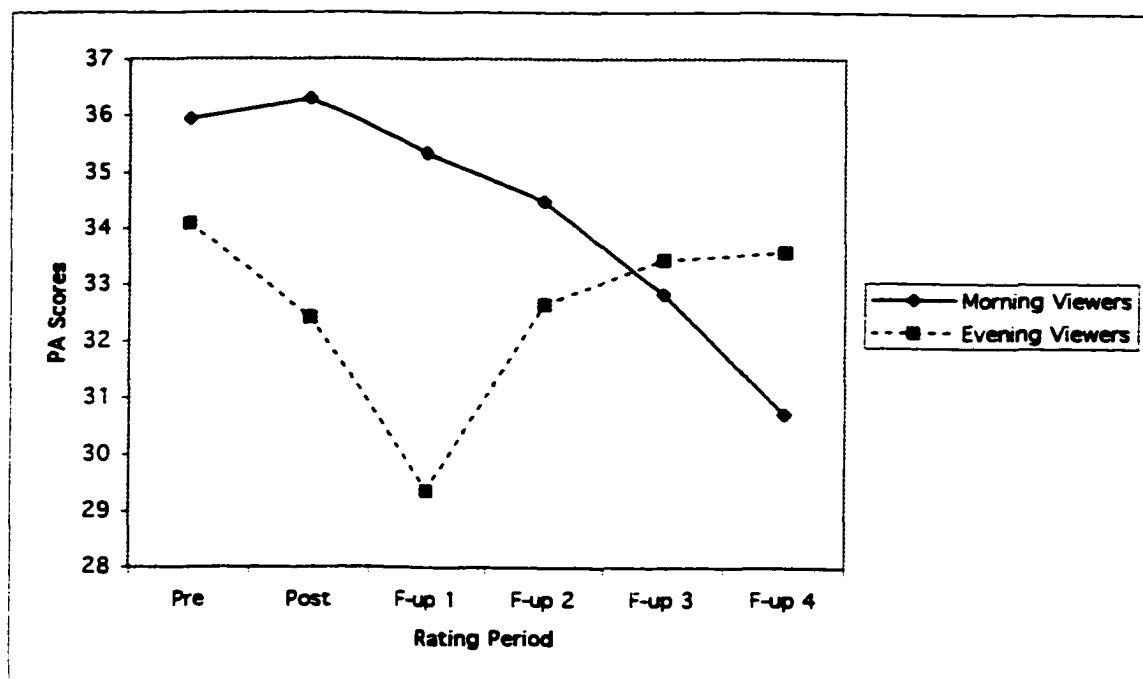
Figure 3. Time of Testing × Rating Period Interaction for Positive Affect Scores for Morning and Evening Viewers.

evening viewers, however, differences in BDI scores for negative versus positive

viewers at each rating period were more variable. Multiple comparisons were

computed via correlated samples t tests (Bonferroni-t) to determine which differences

in BDI scores for negative and positive viewers were significantly different from each

other. Results indicate that, for evening viewers, the difference between BDI scores

for those who saw the negative newscast versus those who saw the positive newscast

at postviewing was significantly different from the difference in their BDI scores at

the fourth follow-up rating period (t (14) = 4.01, $p < .05$). Figure 5 shows that those

who saw negative news in the evening had considerably higher BDI scores at

posttesting than did those who saw positive news in the evening (mean difference of

Figure 4. Content of News × Rating Period Interaction for BDI Scores for Morning
           Viewers.
Note.   Taken together, Figures 4 and 5 illustrate the content of news × rating
           period × time of testing three-way interaction.

4.9). By the fourth follow-up rating period, their scores were less discrepant (mean

difference of –0.9), with those who saw positive news in the evening reporting

slightly higher BDI ratings than those who saw negative news in the evening.

LEI and Mood Measures

The Life Events Inventory was expected to be associated with higher negative

mood scores at previewing as well as greater changes in mood following the

television newscast. This analysis required the computation of multiple correlations,

which increased the risk of committing a Type I error considerably. Therefore,
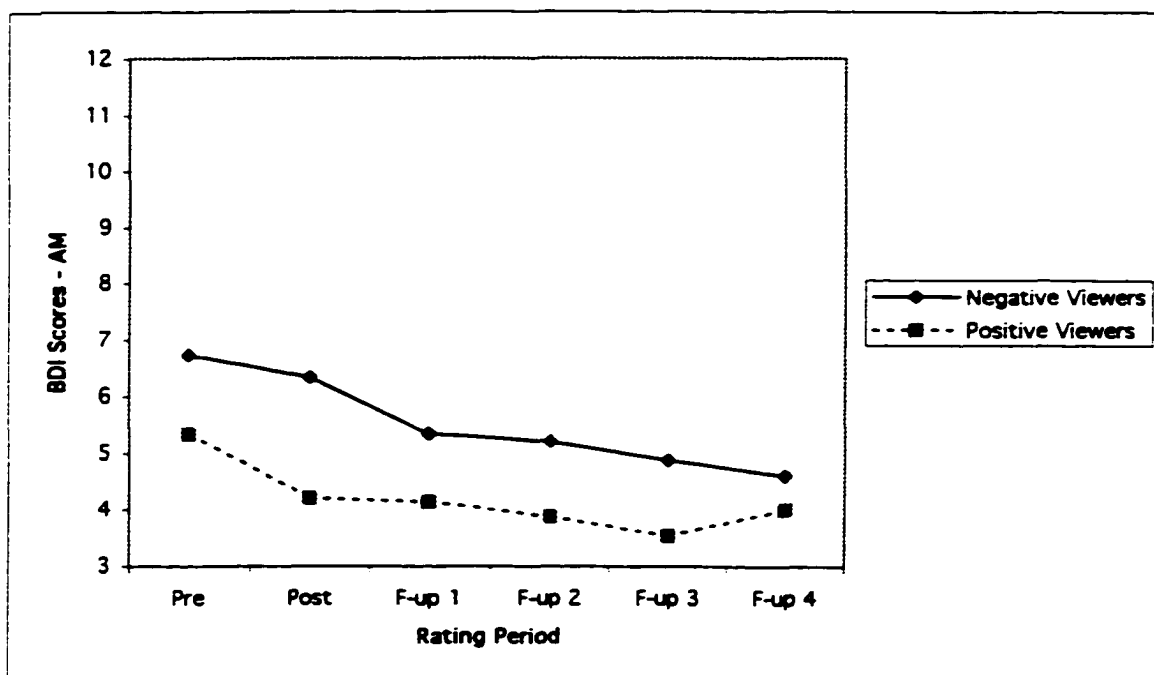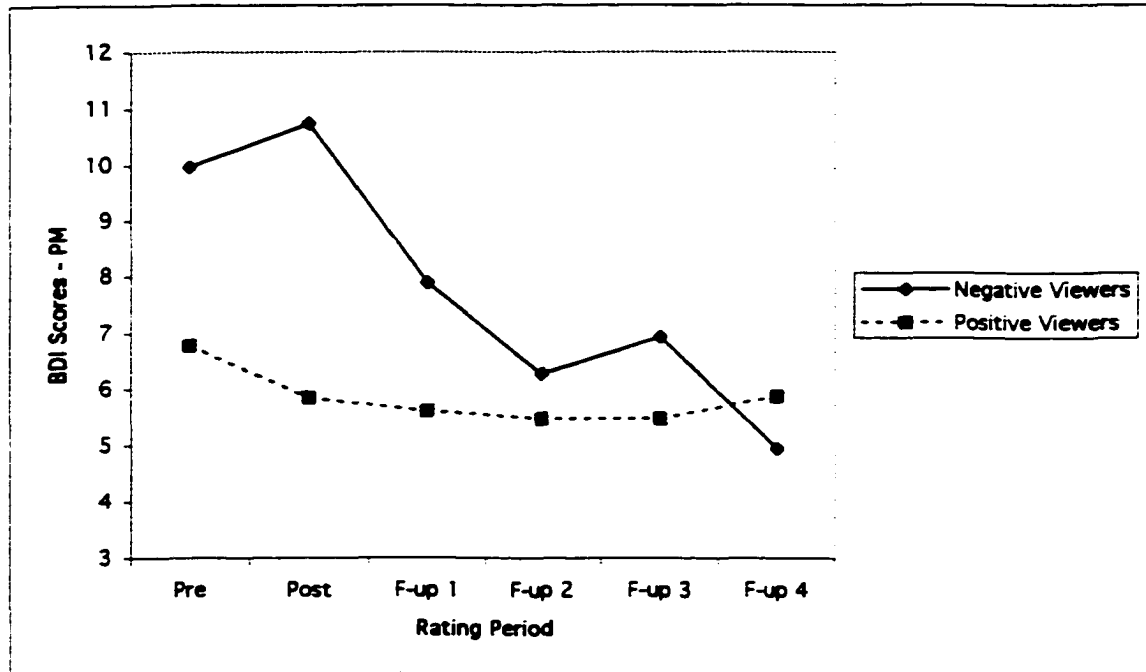
Figure 5. Content of News × Rating Period Interaction for BDI Scores for Evening Viewers.

Note.   Taken together, Figures 4 and 5 illustrate the content of news × rating period × time of testing three-way interaction.

Pearson *r* correlations were converted into F scores and compared to the more conservative Bonferroni-*F* critical value to determine significance.

To begin, participants' mean score on the LEI was 281.1 (SD = 212.8, Min = 0, Max = 1339). Pearson *r* correlations were computed to examine the relationships between LEI scores and pretesting scores on each mood measure. A significant relationship (r = .34, p < .01) was found between the LEI and the BDI, suggesting that increases in stressful life events over the past year were associated with elevations in depressive symptoms. The LEI was not found to be significantly associated with any other mood measure at pretesting. In order to determine whether

LEI scores were associated with mood changes from previewing to postviewing, LEI scores were correlated with change scores on the BDI, STAI, STAS, NA, and PA scales for each content group (negative, positive, and combined). No significant relationships were found between the Life Events Inventory and any pre- to postviewing mood changes ($p > .05$).

AIM and Mood Measures

Similar analyses were carried out to detect associations between scores on the Affect Intensity Measure, a measure of overall affect intensity, and mood changes from previewing to postviewing for each content group. The mean AIM score for participants was 140.9 ($SD = 17.9$, Min = 92, Max = 189). Again, Pearson r correlations were computed between the AIM and change scores on each mood measure. In addition, change scores (previewing minus postviewing) on each mood measure and for each content group were correlated with the three AIM factor scales: Positive Affectivity, Negative Reactivity, and Negative Intensity. This, again, resulted in the computation of numerous correlations ($n = 45$), so correlations were converted into F scores and compared to a more stringent critical value (Bonferroni-F). No significant associations between the AIM or its factor scores and any previewing to postviewing mood changes were detected ($p > .05$).

Recall Measures

It was expected that viewers of the negative newscast would remember more news items than would viewers of the combined or positive newscasts on tests of immediate and delayed recall (i.e., approximately 3 hours after watching the newscast). It was also hypothesized that more news items would be immediately

recalled by those who viewed newscasts in the morning than by those who viewed newscasts in the evening. To investigate this, recall scores were subjected to ANOVA procedures, one of which combined recall scores from morning and evening viewers, and the other of which analyzed recall scores from a.m. and p.m. viewers separately. Main effects for content yielded a nonsignificant result for both immediate (F (2, 87) = .19, p = ns) and delayed (F (2, 84) = .60, p = ns) recall tasks. This suggests that the total number of items remembered was consistent across the negative, positive, and combined viewing groups. Because the number of news stories included on the stimulus tapes was not equal, it was of interest to determine the percentage of news items remembered by those viewing the negative, positive, and combined newscasts. On a test of immediate free recall, negative viewers remembered 49% of the total number of stories, while combined and positive viewers remembered only 39% and 38%, respectively. This suggests that, while an equal number of news items were remembered by viewers in each group, those who saw negative news remembered a higher percentage of the stories they watched than did combined or positive news viewers. Mean scores, standard deviations, and percentages for immediate and delayed recall tasks are provided in Table 5.

Morning and evening immediate recall scores were also subjected to an ANOVA, and no significant differences were detected between groups (F (1, 88) = .10, p = ns). This suggests that the number of news items remembered in the morning did not differ significantly from the number remembered in the evening. Again, mean recall scores can be seen in Table 5.

In order to determine whether viewers of the combined newscast remembered more negative news items than positive ones, immediate and delayed recall scores (negative vs. positive) were each subjected to a correlated samples t test. No

significant differences were found between negative and positive recall scores on either immediate (t (29) = 1.45, p > .05) or delayed recall (t (27) = 1.58, p > .05) tasks. This suggests that exposure to both good and bad news does not result in better recall of the negative news stories.

Table 5

Means, Standard Deviations, and Percentages on Recall Tasks
by Group Assignment

	Negative Viewers			Positive Viewers			Combined Viewers		
	M	(SD)	%	M	(SD)	%	M	(SD)	%
Immediate Recall	8.8	(2.8)	49	8.3	(3.1)	38	8.6	(2.9)	39
Delayed Recall	6.9	(3.6)	38	6.8	(3.1)	31	7.7	(3.2)	35

	Morning Viewers		Evening Viewers	
	M	(SD)	M	(SD)
Immediate Recall	8.5	(2.8)	8.7	(3.0)
Delayed Recall	7.1	(2.9)	7.2	(3.6)

Note. Mean scores denote the number of individual news items recalled by participants. % denotes percentage of total items remembered from each stimulus newscast.

Newscaster Impressions Questionnaire

In order to detect differences in how respondents rated the newscaster, NIQ scores were subjected to an ANOVA, where content of news (i.e., negative, positive, or combined) was the independent factor. Significant differences were detected between groups (F (2, 87) = 4.63, p = .01), such that those who viewed the negative newscast rated the newscaster much less favorably (M = 57.97, SD = 17.5) than did those who viewed the combined newcast (M = 48.03, SD = 19.9) or the positive newscast (M = 43.43, SD = 19.2). It should be noted that lower scores on the NIQ

indicate more favorable ratings of the newscaster. Pairwise comparisons (i.e., Tukey HSD) demonstrated a significant difference between ratings made by the negative group and the positive group ($p < .05$), but not the combined group ($p = $ ns).

Descriptive information for each content group, detailed in Table 6, shows that those who viewed the negative newscast rated the newscaster least favorably on the following dimensions: compassion, sympathy, and friendliness. Conversely, those who viewed the positive newscast rated the newscaster most favorably on her pleasant voice, friendliness, and professionalism.

One variable that was shown to be moderately correlated with scores on the NIQ was familiarity with the newscaster ($r = .28$, $p < .01$). Almost 68% of the sample answered yes to the question *Have you seen this newscaster before today?* ($n = 15$ in the negative group, $n = 23$ in the positive group, $n = 23$ in the combined group). Because familiarity with the newscaster was not equally distributed among the three content groups ($F(2, 87) = 3.39$, $p = .04$) and because familiarity may have influenced responses to the NIQ, an ANCOVA was run, with *familiarity* treated as a covariate. The analysis yielded an F ratio that just reached statistical significance ($F(3,86) = 3.06$, $p = .05$), which demonstrates that prior exposure to the newscaster somewhat weakens the effect that news content has on newscaster ratings.

Diurnal Mood Patterns

Because mood ratings were taken repeatedly during this project, information about diurnal mood fluctuations was ascertained; however, these data should be interpreted with extreme caution. Since participants were exposed to television newscasts that were shown to impact their moods, mood data may contain some inherent confounds. In an effort to reduce this likelihood, postviewing mood scores

Table 6

Means and Standard Deviations for NIQ Items by Content Group

	Negative Viewers		Positive Viewers		Combined Viewers	
	M	(SD)	M	(SD)	M	(SD)
Professional	4.0	(1.9)	2.9	(1.7)	3.6	(1.6)
Credible	4.0	(1.5)	3.7	(1.7)	3.8	(1.7)
Believable	4.2	(1.8)	3.5	(1.9)	3.4	(1.6)
Pleasant voice	4.2	(1.8)	2.8	(1.6)	3.3	(1.9)
Competent	4.3	(1.8)	3.6	(2.3)	3.6	(1.7)
Qualified	4.3	(1.6)	3.5	(1.9)	3.8	(1.6)
Trustworthy	4.3	(1.6)	3.4	(1.9)	3.6	(1.6)
Nervous	4.4	(2.4)	3.0	(2.2)	4.4	(2.3)
Attractive	4.4	(2.0)	3.5	(1.9)	3.2	(1.7)
Delivery of news	4.5	(1.8)	3.6	(1.7)	3.9	(1.7)
Friendly	4.7	(1.9)	2.8	(1.7)	3.7	(1.9)
Sympathetic	5.1	(2.0)	3.6	(1.8)	3.7	(1.9)
Compassionate	5.3	(1.9)	3.6	(1.7)	3.9	(2.0)

Note. Score range 1–10. Lower scores indicate more favorable responding; higher scores indicate less favorable responding.

were not included in the diurnal mood analyses. While it cannot be said that the effects of watching the news were totally eliminated, they were reduced considerably since earlier analyses demonstrated that mood effects had disappeared by the first follow-up rating period.

Data from morning and evening subjects were pooled so that mood ratings for the entire study sample could be inspected at five time periods: 8:00 a.m., 12:00 p.m., 3:00 p.m., 6:00 p.m., and 9:00 p.m. Correlated samples t tests (Bonferroni-t)

were then run between time periods to detect significant differences in moods at

various times of day. Positive Affect scores showed the most obvious diurnal pattern,

with scores at 9:00 p.m. differing significantly from PA scores at all other rating

periods ($p < .01$). Visual inspection of the data, illustrated in Figure 6, indicates that

positive affect scores were considerably lower at 9:00 p.m. than they were in the

morning, afternoon, or early evening. Scores on the BDI also differed significantly

between 3:00 p.m. and both 8:00 a.m. and 6:00 p.m. (t (44) = 3.88, $p < .01$ and t (44)

= 3.22, $p < .01$, respectively), suggesting that fewer depressive symptoms were

experienced in the mid-afternoon than in the early morning or early evening. Finally,

scores on the STAI were significantly different between 12:00 p.m. and 9:00 p.m.

(t (44) = 4.12, $p < .01$), suggesting that participants experienced less anxiety in the
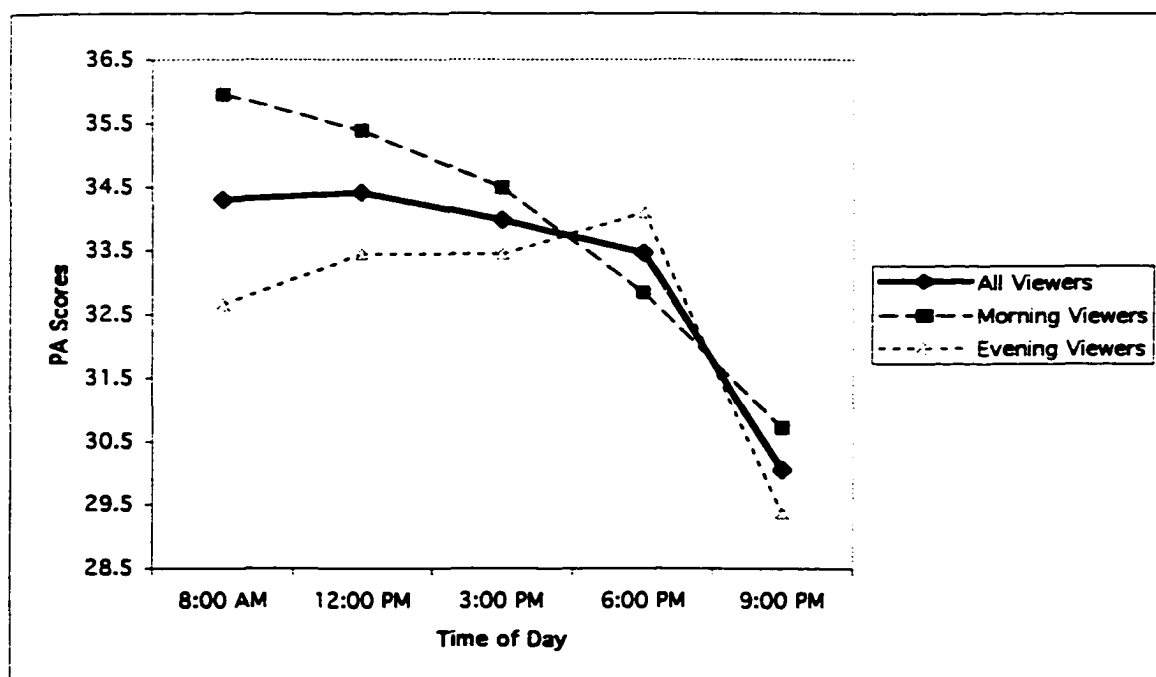

Figure 6. Positive Affect Scores at Five Times of Day for Morning Viewers, Evening Viewers, and Morning and Evening Viewers Combined.

evening than they did at noon. Neither the STAS nor the Negative Affect scales showed any diurnal pattern, suggesting that both anger and negative affect are experienced at relatively consistent levels throughout the day.

CHAPTER IV

DISCUSSION

Primary Variables

The primary purpose of this project was to determine the nature of individuals' mood responses to watching television newscasts. Results of the study support the first hypothesis, which posited that watching a 10-minute negative newscast would result in greater increases in negative mood states and greater decreases in positive mood states than would watching a 10-minute combined or positive newscast. Specifically, those who viewed negative news showed significantly greater increases in anxiety and negative affect than did those who viewed combined (i.e., both positive and negative) or positive news. In addition, those who watched a negative newscast showed greater decreases in positive affect than those who were exposed to combined or positive newscasts. For negative news viewers, increases in anxiety and negative affect from previewing to postviewing reached statistical significance, but decreases in positive affect did not.

It was also hypothesized that watching exclusively good news would produce increases in positive affect. Surprisingly, positive news viewers experienced only a slight increase in positive affect after watching the news, and this was not found to be a significant change. Unexpectedly, though, these same viewers showed significant decreases in both anxiety and negative affect after watching exclusively positive news. While negative and positive viewers differed significantly in the amount of

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change they experienced in PA after watching their respective newscasts, neither the increases in PA reported by positive viewers, nor the decreases in PA reported by negative viewers were shown to be significant. Contrary to expectations, neither anger nor depression ratings changed after watching any of the three types of newscasts.

That anxiety and negative affect showed such similar patterns is not particularly surprising since previous research has shown a strong correlation between the two mood states (Watson & Tellegan, 1985). These findings partially replicate those of Johnston and Davey (1997), who demonstrated increased anxiety and "sadness" levels in individuals exposed to negative news items. While the present investigation detected changes in anxiety ratings, it did not detect changes in depression levels as a result of watching negative news. The two projects, however, have some qualitative differences. First, Johnston and Davey (1997) utilized trait measures of anxiety and depression (i.e., STAI Y-2, BDI) that tapped less transient mood states. Second, the study relied on a much smaller sample size ($n = 30$) that necessitated the use of nonparametric statistical strategies to analyze the data. Subsequently, the confidence with which their results may be conveyed is somewhat limited and, in fact, requires replication with a larger sample size. Since the present investigation improved upon these limitations, the obtained results could possibly better represent individuals' mood responses to negative news.

As expected, combined news viewers demonstrated the least variability in mood from pre- to postviewing, showing no significant change on any mood measure after viewing both good and bad news items. This suggests that the balancing of positive news stories with negative news stories may serve to buffer the negative emotional consequences associated with watching only negative news. Since TV

newscasts rarely, if ever, contain exclusively good or bad news, the balanced newscast served to reflect a more realistic sample of news, making the results particularly relevant to audiences and news organizations. Because combined news viewers showed no affective changes, it might be expected that most individuals who watch television news do not experience significant changes in mood. However, since research has shown that there is a predominance of bad news placed at the beginning of newscasts (Johnson, 1996), viewers who turn off their TV sets after watching only a portion of the news may still experience increased anxiety and negative affect. This might be particularly pertinent to morning news viewers, who frequently report watching short segments of news for the sake of getting information about weather and/or traffic (Lin, 1992). Others may try to escape from feelings of increased anxiety and negative affect by turning off their television sets or switching channels before the positive news stories have a chance to level out their unpleasant moods.

While results suggest that the inclusion of positive news along with negative news serves to buffer the impact that negative news, alone, has been shown to cause, it is not clear whether neutral news serves the same function. Future research that incorporates neutral news items into the newscasts would lend particularly useful information. Weather and traffic reports, for example, are staples in most local television newscasts (Kovsky, 1996), and it would be helpful to learn whether they would offset the impact that bad news has on anxiety and negative affect levels. Similarly, human interest stories, whose content is often neither positive nor negative, are frequently included in local newscasts (Kovsky, 1996). While the addition of a human interest story along with several bad news stories was not found to lessen worries about social issues (Zillman & Bryant, 1994), it is not clear whether it would

prevent or minimize the negative affective changes associated with watching bad news alone.

Also of interest to the present investigation was whether the time of day one is exposed to television news impacts one's mood responses to that news. Specifically, it was predicted that viewing negative and combined newscasts in the morning would result in greater negative mood changes than viewing them in the evening. Contrary to expectations, mood changes in response to watching bad or good news did not vary as a function of morning versus evening viewing/ measurement. That is, morning and evening viewers of a negative newscast demonstrated consistent increases in anxiety and negative affect after watching the news, just as morning and evening viewers of a positive newscast demonstrated consistent decreases in anxiety and negative affect after watching the news. Likewise, viewers of a combined newscast showed no significant mood changes, whether they were tested at 8:00 a.m. or 6:00 p.m. Furthermore, the absence of interaction effects suggests that the differences between affective changes caused by the three types of newscasts were similar at 8:00 a.m. and 6:00 p.m. Taken together, these results suggest that morning viewers are not more vulnerable to experiencing changes in negative affect as a result of watching bad news or a combination or good and bad news than are evening viewers.

A third focus of the project investigated how long affective changes persisted after watching a negative, positive, or combined television newscast. Participants engaged in repeated mood measurement in order to investigate the hypothesis that morning viewers' mood changes would be maintained for longer periods of time than would evening viewers'. While changes in anxiety and negative affect were reported immediately following the positive and negative newscasts, mood ratings returned to

previewing levels three hours later, and this held true for both the 8:00 a.m. and 6:00 p.m. viewers. That is, by 12:00 noon, anxiety and negative affect scores were no longer elevated for morning viewers who saw negative news. Likewise, these scores were no longer elevated at 9:00 p.m. for evening viewers who saw negative news. A similar effect was demonstrated for morning and evening viewers of the positive newscast, except that anxiety and negative affect levels initially decreased and then returned to normal levels within three hours. This suggests that affective changes caused by viewing exclusively good or exclusively bad news are fairly short-lived. The exact length of time that mood changes persisted following the newscast was not able to be determined. Since mood ratings had returned to previewing levels by the first follow-up rating period, it can only be said that mood changes were not maintained 3 hours after the newscast. Future research that incorporates repeated mood measurement over shorter time intervals might help further define how long moods remain affected by watching TV news. In any case, the fact that negative mood effects disappear fairly quickly might allow viewers to watch the news for longer periods of time, in spite of their immediate discomfort. This might be especially true for those watching the news to gratify other needs, such as to acquire information, to be entertained, or to see favorite news personnel (McDonald, 1990). Such motivations for viewing the news might serve to compete with the anxiety and negative affect caused by watching, in much the same way that motivations to attend a scary movie (e.g., entertainment) might rival the fear experienced at some points during the show (Comstock & Scharrer, 1999).

Since anxiety and negative affect are state-related moods that are expected to be transient in nature, it is not particularly surprising that moods returned to their previewing levels by the first follow-up rating period. It is likely that participants

encountered numerous environmental stimuli during the hours immediately after the testing session that returned their anxiety and negative affect to more usual levels. Further, "Since elevations in state anxiety are experienced as unpleasant or painful, an individual will engage in cognitive and behavioral operations or responses that serve to reduce or minimize this discomfort" (Spielberger, 1972, p. 485). Therefore, it might be suggested that individuals who experienced increased anxiety as a result of watching bad news sought out anxiety-inhibiting stimuli following the testing session, or engaged in responses that competed with the anxiety in order to lessen its impact (Wolpe, 1990). Future research that investigates news viewers' behavioral responses to their elevated negative mood states is warranted, especially as it relates to TV viewing. For example, selective exposure theorists might predict that viewers with increased anxiety as a result of viewing negative news, would later choose programming with the greatest likelihood of reducing their anxiety (e.g., game-shows, relaxing fare) (Zillman et al., 1980).

Finally, learning that evening viewers' mood changes did not persist into the following morning was even less surprising. As Rehm (1978) pointed out in his investigation of mood effects, "There was no indication of causality from events of one day to mood on the next" (p. 856).

Another interesting, albeit somewhat inconsistent, finding was the detection of a three-way interaction for BDI scores. While differences in BDI scores between those who saw negative versus positive news in the morning were consistent across all rating periods, the differences in BDI scores between those who saw negative versus positive news in the evening were not equal at all rating periods. This suggests that differences in BDI ratings made by those who saw a positive newscast and by those who saw a negative newscast were more variable when viewing took place in

the evening. Interestingly, though, no main effects for news content, main effects for time of testing, or interaction effects were detected for the BDI when only change scores (previewing minus postviewing) were considered in the analysis. This must be taken into account when interpreting the higher-order interaction. Although news content and time of testing were found to interact when all rating periods were considered, the absence of this interaction with BDI change scores calls into question whether the content of news or the time of testing were responsible for differences in depression ratings. Out of the multiple comparisons that were made, only one pair differed significantly and was the presumed cause of the interaction effect. The difference between postviewing scores in negative and positive news viewers who were exposed to the news in the evening differed significantly from the difference in those scores at the fourth follow-up rating period. For evening viewers, the fourth follow-up rating period took place at 3:00 p.m. Later analyses of diurnal mood fluctuations, which included all participants, found that BDI ratings made at 3:00 p.m. were significantly lower than they were in the morning and the early evening. This finding makes it difficult to describe whether regular diurnal fluctuations in depressive symptoms, the content of news, or a combination of both were responsible for the interaction detected on BDI scores.

To summarize the primary findings on mood responses to TV newscasts, watching negative news increased levels of self-reported anxiety and negative affect, while watching positive news decreased levels of anxiety and negative affect, and these changes were consistent for both morning and evening viewers. Furthermore, changes in affect were present immediately following the newscasts but were not evident 3 hours later.

Secondary Variables

The present investigation explored several other hypotheses. For example, it was expected that scores on the Life Events Inventory, a measure of the occurrence of stressful events during the past 12 months, would be positively correlated with measures of depression, anxiety, anger, and overall negative affect for participants at pretesting. Interestingly, only scores on the BDI were found to be associated with LEI scores. This suggests that the occurrence of more stressful events is predictive of increased depressive symptoms but not of increased state-related anxiety, anger, or negative affect. Upon closer examination of the mood measures, this finding was not particularly surprising. First, unlike the STAI, STAS, and NA scales that assess cognitive appraisals of mood states, the BDI was designed to measure the behavioral manifestations of depression (Beck et al., 1961). Furthermore, although instructions on the BDI were changed to read "please rate how you are feeling right now" rather than "please rate how you have been feeling over the past seven days," many BDI items are worded in a way that queries more stable depressive symptoms (e.g., *I don't sleep as well as I used to, I have recently lost 10 pounds*). Since the LEI also measures behavioral symptoms that are summed to represent a fairly stable measure of stress over the past year, scores might be expected to correlate significantly with BDI scores. In contrast, the STAI, STAS, and NA scales are state measures, intended to assess transient mood fluctuations. That higher LEI scores are not predictive of increased state-related negative affect, therefore, is not particularly remarkable.

Also of interest was whether increases in stress levels, as measured by the LEI, would predict greater mood changes after watching negative or combined

newscasts. Correlational analyses identified no significant associations between LEI scores and changes in anxiety, depression, anger, or negative affect after watching the news. This suggests that individuals who have experienced more stress over the past 12 months respond similarly to hearing bad and/or good news than do those who have experienced fewer stressful events. In other words, increased stress is not predictive of greater affective vulnerability in response to hearing negative news. Interestingly, previous research has demonstrated an association between more stressful events and decreased television news viewing, whereby highly stressed individuals tend to pass on news programming in favor of comedy or game-show programming (Anderson et al., 1996). One explanation that has been purported to explain this behavior is that TV news affects highly stressed individuals more negatively than it does less stressed viewers, resulting in their avoidance of the news. This investigation does not support this notion. It may be that highly stressed individuals tend to choose more uplifting programming over news programming, but it is unlikely the result of experiencing stronger, negative affective responses to bad news than less stressed individuals.

To further assist in the interpretation of mood responses to the various newscasts, responses on the Affect Intensity Measure were correlated with mood changes in those who watched a negative, positive, or combined newscast. Significant associations between the AIM's overall score or individual factor scores and mood changes were thought to be able to describe a particular "type" of respondent and, perhaps, identify individuals prone to stronger affective changes after watching the news. However, no significant associations were found between AIM scores and changes in anxiety, depression, anger, negative affect, or positive affect. This suggests that individuals who typically respond to events with high affect

intensity do not tend to show greater affective changes after watching a 10-minute newscast. Likewise, those who typically respond with low affect intensity do not tend to respond to TV news with smaller affective changes. This is somewhat surprising, especially when AIM factor scores are considered. For example, individuals who show high levels of negative reactivity (i.e., the characteristic strength of people's emotional responses to emotion-evoking stimuli) were expected to show greater increases in negative affect after viewing the negative newscast, but this relationship was not established. Because participants' moods changed after watching the negative and positive newscasts, it cannot be argued that the news was lacking emotion-evoking material. It may be, however, that the AIM identifies individuals who respond with high affect intensity to events that are more personally relevant than the events portrayed in the newscasts. For example, most of the AIM's 40 items assess behavior and affect specific to the individual (e.g., *I feel pretty bad when I tell a lie; When I receive an award, I become overjoyed*) (Larsen & Diener, 1987). Only two items assess how individuals respond to events external to themselves: *The sight of someone who is hurt badly affects me strongly,* and *Seeing a picture of some violent car accident in a newspaper makes me feel sick to my stomach*. Since the newscasts relayed information that, presumably, was not directly relevant to viewers, their mood responses may not have reflected their characteristic affect intensity as measured by the AIM.

Another hypothesis addressed in this project posited that negative news items would be remembered better than positive news items. Contrary to expectations, watching negative newscasts did not enhance recall scores. Instead, viewers of exclusively negative, exclusively positive, or both negative and positive news remembered the same number of items on both immediate and delayed free recall

tasks. However, because fewer stories appeared on the negative newscast ($n = 18$)

than either the combined or positive newscasts ($n = 22$), the percentage of news

stories recalled was also of interest. Interestingly, those who watched exclusively bad

news remembered almost half of the news items immediately after viewing, whereas

those who viewed only good news or a combination of good and bad news

remembered less than 40% of the stories right after viewing. This finding offers some

support for the original hypothesis and suggests that watching bad news results in

slightly better memory for that news than does watching good news or a combination

of both. It follows, then, that those who watch both good and bad news stories will

remember a greater percentage of negative items than positive items. Unfortunately,

results did not support this, as combined news viewers remembered equal numbers of

negative and positive stories. It should be noted, however, that the positive and

negative news items were presented in a balanced order, with a positive story

appearing before and after each negative story. This presentation is unlike actual

newscasts, which typically contain a predominance of bad news at the beginning,

followed by good news placed sporadically throughout the rest of the newscast

(Johnson, 1996). Such a presentation may have impacted other variables known to be

associated with recall, such as primacy or latency effects. Other studies that have

relied on actual TV newscasts may have demonstrated better recall for negative news

as a result of the varying order of bad and good news, such that more bad news

placed at the beginning of the newscast resulted in better memory for that news (i.e.,

primacy effect). In sum, definitive statements about recall of negative versus positive

news are difficult to make. While this investigation yielded modest evidence that

watching negative news results in better memory for that news, the findings primarily

suggest little difference in recall for good and bad news stories. Future research that

exposes participants to equal numbers of positive and negative news stories will allow for more conclusive statements to be made.

Previous research on recall of news does not clarify the issue, as studies have presented conflicting findings regarding whether exposure to negative news results in better recall than exposure to neutral or positive news (Furnham & Gunter, 1987; Newhagen & Reeves, 1992). One inherent problem with this type of research relates to how negative news has been defined. For example, some studies define negative news as that which contains violence or suffering (Gunter, 1980), while others describe it as that which contains negative visual images (Newhagen & Reeves, 1992). It follows, then, that the types of stories participants have been shown and subsequently asked to remember might differ across studies. In the present investigation, each story included on the negative stimulus tape was rated as *very bad news* or *extremely bad news* by independent raters. While the subject matter was undoubtedly negative, no stories contained gruesome or violent visual images, which might be expected to enhance recall of those items (Gunter, 1980). Until negative news is operationally defined so that stimulus materials are consistent and generalizations may be made across studies, the effect that news content has on recall scores will remain somewhat unclear.

Unlike studies before it, this project failed to demonstrate better recall for news in the morning than in the evening (Furnham & Gunter, 1987; Gunter et al., 1983). Instead, participants remembered equal numbers of news items whether they were tested at 8:00 a.m. or 6:00 p.m. Interestingly, though, the overall percentage of new stories recalled by participants (42%) was considerably higher than the percentage of items reported in previous investigations (25%) (Furnham & Gunter, 1987; Gunter, 1980; Stauffer et al., 1983). One possible explanation relates to the

fact that increased attention facilitates recall of news items (Stauffer et al., 1983). Participants, presumably, attended well to the news presented during the controlled testing session. On the other hand, other studies have relied on in-home viewing behavior that was, undoubtedly, less controlled and more likely to contain distractions that might have hindered recall scores. It should also be noted that the average household income level of the sample was considerably higher than what is found in the normal population, with over one quarter of participants reporting an annual income of over $100,000 per year. Higher income levels are often associated with higher education levels, which likely contributed to better recall scores as well.

A final hypothesis predicted that people's perceptions of news personalities would be affected by the type of news being delivered. Specifically, ratings on the Newscaster Impressions Questionnaire were expected to vary as a function of the type of newscast viewed: negative news viewers would rate the newscaster least favorably, followed by the combined news viewers and, finally, the positive news viewers. Statistical analyses supported this notion and convincingly demonstrated the effect. It was necessary, however, to take into account the potential influence that prior exposure to the newscaster had on respondents' ratings. The newscaster used on the stimulus tapes was a local morning news anchor in the metropolitan Detroit area. Because participants were recruited from Detroit and its surrounding cities, many respondents had prior exposure to the news anchor. Therefore, the variable "familiarity with the newscaster" was treated as a covariate in the NIQ analyses. Although this decreased the effect size somewhat, significant differences persisted between content groups. Specifically, those who viewed negative news rated the newscaster least favorably, and those who viewed positive news rated the newscaster most favorably. Furthermore, participants who were familiar with the newscaster

rated her more favorably than those who had not seen her before, irrespective of the newscast viewed. This latter finding suggests that participants brought formerly developed impressions of the newscaster into the testing session, which tended to be more positive than negative. It follows, then, that for those who saw the negative newscast and were also familiar with the newscaster, ratings were higher than for those who viewed the same newscast but had not seen the newscaster before. Perhaps, hearing bad news from someone with whom one is familiar affects one's impressions of that person less than hearing bad news from someone with whom one is unfamiliar. Future research that examines this hypothesis might be of interest not only to news reporters and anchors, but also to medical professionals, law enforcement officials, and other individuals who are frequently asked to deliver bad news to others.

These results have interesting implications for television news stations and their on-air talent. First, news organizations frequently hold focus groups (Kreuger, 1994; Stewart & Shamadasani, 1990), whereby selected individuals are asked to watch a news segment and then provide feedback about the news anchor seen on the tape. Since this project demonstrates the influence that news content can play on ratings of a newscaster, it might be suggested that focus groups incorporate news segments of similar content when evaluating news anchors. At a minimum, those who interpret focus group results must take into account the potential influence that negative news can have on talent ratings. For example, the present investigation found that when the newscaster presented only negative news, she was rated fairly low on the friendliness dimension; conversely, when she presented only positive news, she was rated quite high on the friendliness dimension. If either of these ratings were interpreted without also considering the content of news reported, incorrect

assumptions may have been made about how viewers perceive the news anchor regarding friendliness. Since focus group information is a primary tool used by television stations to evaluate their on-air talent and subsequently make important hiring, firing, and scheduling decisions, understanding potential confounds to the process is of great importance.

Although no specific predictions were made regarding daily mood cycles, this project yielded information that is worthy of mentioning. Information about diurnal mood fluctuations was ascertained by combining mood ratings made by each participant at several points in time: 8:00 a.m., 12:00 p.m., 3:00 p.m., 6:00 p.m., and 9:00 p.m. Despite the fact that postviewing scores were removed from this analysis in an effort to reduce confounds to mood ratings, results on diurnal mood variation should be interpreted with caution.

To begin, positive affect showed the most obvious diurnal pattern, with scores remaining fairly constant from morning until evening, and then showing a dramatic decline at 9:00 p.m. This finding was consistent with analyses computed for morning and evening viewers separately. First, evening participants' previewing to postviewing positive affect scores showed a larger decrease than morning participants' scores, irrespective of the type of news they watched. This suggests that positive affect scores began their decline shortly after 6:00 p.m., resulting in significantly lower PA ratings made at 6:30 p.m. (i.e., postviewing). Second, only positive affect scores were found to differ significantly between morning and evening viewers at various rating periods (i.e., time of testing × rating period interaction). That is, the difference between a.m. and p.m. viewers' PA ratings at the first follow-up rating period (i.e., 9:00 p.m. for evening viewers and 12:00 p.m. for morning viewers) was much larger than their differences at all other follow-up rating periods.

Since PA scores for all viewers were shown to follow a diurnal pattern, distinguished by a significant decrease at 9:00 p.m., it is not surprising that interaction effects were detected when the 9:00 p.m. rating period was included in the analysis. To help clarify the nature of the interaction, Figure 6 illustrates positive affect levels for morning and evening viewers by time of day, rather than by rating period. It can be clearly seen that the pattern of PA responding is similar for morning and evening groups, which is exemplified by a marked decrease in positive affect at 9:00 p.m.

The fact that positive affect was shown to fluctuate diurnally is consistent with previous mood research; however, unlike other studies, the present project was unable to demonstrate low levels of positive affect in the morning and a peak in the afternoon, preceding the decline in the evening (Clark et al., 1989; Thayer et al., 1988; Wood & Magnello, 1992). Since there was a possibility that 8:00 a.m. ratings were, at least in part, inflated by morning participants who were eager to engage in the study, PA scores made at 8:00 a.m. were compared for morning and evening viewers. Mean scores were almost identical, making score inflation a nonviable explanation for the higher morning PA scores reported in this study. As was previously mentioned, the possibility exists that the results on diurnal mood variation were confounded by the intervention included in this project; however, it may also be that positive affect levels are more consistent in the morning and throughout the day than previously thought.

Depression and anxiety scores were also found to vary as a function of the time of day. First, participants reported more depressive symptoms in the early morning and early evening than they did in the mid-afternoon, which is consistent with the findings of Stone et al. (1996). Second, participants experienced significantly more anxiety symptoms at the noon hour than they did in the evening. Few studies

have incorporated measures of depression and anxiety in their investigations of diurnal mood patterns (Hill & Hill, 1991; Stone et al., 1996), yet this project and others suggest the possibility that depression and anxiety show daily fluctuations. With few exceptions, little research has incorporated measures of depression and anxiety in their investigations of diurnal mood patterns. This project, along with the findings of Hill and Hill (1991), suggest the possibility that depression and anxiety show daily fluctuations. Such information could be useful in clinical settings, where self-report measures are frequently relied upon for assessment and treatment planning. For example, a therapist might recommend that a client engage in anxiety reducing strategies at particular times of day, before anxiety levels are suspected to increase.

Consistent with the majority of studies on diurnal mood patterns, negative affect was not found to fluctuate diurnally (Clark et al., 1989; Thayer et al., 1988; Wood & Magnello, 1992). Instead, negative affect scores remained fairly low throughout the morning, afternoon, and evening. It has been argued that negative affect is determined, in large part, by environmental variables (Stone et al., 1996), which may cause periodic elevations in NA throughout the day. This project lends support to this notion by demonstrating that negative affect increases significantly after exposure to a negative newscast and decreases significantly after exposure to a positive newscast, but returns to normal levels shortly thereafter. On the other hand, positive affect scores, which are believed to be determined more by psychophysiological processes than by environmental influences (Clark et al., 1989; Watson et al., 1988), do not increase or decrease significantly after exposure to newscasts of varying content but do show consistent diurnal fluctuations.

Strengths and Limitations

Several potential limitations of the study must be noted. First, generalizability of this project's results is limited by the fairly narrow demographics of the sample. Namely, the majority of participants were Caucasian and of higher socioeconomic status than the general population, and many more women than men volunteered to participate in the study. Future research that incorporates a more heterogeneous sample will allow for broader generalizations to be made. Another limitation is the difference in length of participation by morning and evening viewers. Those who watched the morning news completed their final follow-up ratings that evening, while those who watched the evening news did not complete their participation until the next afternoon. Therefore, the time period between follow-up ratings was slightly variable, making group comparisons somewhat equivocal. Third, stimulus tapes were constructed using news stories originally aired on a morning news program. The possibility exists that these stories differed in some ways from stories normally aired on evening news broadcasts. For example, unlike the morning news, the evening news frequently relies on reporters to tell the story and often presents live footage of an event (Kovsky, 1996). Stories selected for inclusion on the stimulus tapes were reported by a single news anchor and were accompanied by videotaped footage of news events. Despite these differences, the content of the selected stories closely reflected those found on the evening news. In fact, most of the stories had been aired during the previous evening's news broadcast. Finally, because negative news stories tend to be longer (Stone & Grusin, 1984), fewer news stories were included on the negative newscast than were included on the positive or combined newscasts. While negative viewers saw four fewer stories than the positive or combined news viewers,

participants were exposed to each type of news for equal lengths of time, which was thought to be of greatest importance.

Despite these limitations, this project improved upon previous studies' methodological limitations by incorporating a large sample size, using a population other than college students, and including a broad range of mood measures. Furthermore, this project examined mood responses not only to positive and negative newscasts, but also to a more realistic sample of news that contained both positive and negative news items. Because this project involved the experimental manipulation of mood states in television news viewers, the results will make a significant contribution to the literature in this area, which has, heretofore, been primarily correlational in nature. Finally, this study was one of the first to consider how the content of news impacts viewers' perceptions of the person delivering that news.

Future Research

In addition to those already mentioned, future studies might investigate whether negative mood states are further exacerbated by watching breaking coverage of tragic news events, a practice that has become more common with the advent of 24-hour-a-day news channels (Comstock & Scharrer, 1999). Such coverage frequently includes graphic images and gruesome details of events like airplane crashes and natural disasters (Johnson, 1996). Additionally, this type of coverage, unlike typical newcasts, rarely includes positive information. Based on the findings from the present investigation, even greater increases in anxiety and negative affect might be expected to result from watching such reports.

Another area that has not been the focus of scientific investigation is the nature of affective responding to TV news in those who report the news. It would be

interesting to learn whether news anchors, reporters, and even news directors respond differently to hearing bad news than do audience members. It might be expected that people who work in the news business are somewhat desensitized, via repeated exposure, to the typical affective reactions experienced as a result of hearing both good and bad news. Such a finding might help explain why there is a predominance of bad news portrayed in television newscasts (Stone & Grusin, 1984).

Summary and Conclusion

In summary, the present investigation adds valuable information to the scarce literature on how television news impacts affective responding in viewers. Watching negative news causes elevations in anxiety and negative affect, while watching positive news results in decreases in anxiety and negative affect. Exposure to a combined newscast, on the other hand, results in no mood changes, which is particularly interesting since most newscasts contain both good and bad news stories. The affective changes caused by watching TV newscasts appear to be short-lived and are unlikely to be maintained several hours later. Whether one watches the news in the morning or the evening has no impact on mood responses to that news, and the ability to remember news is not affected by the content of news one views. Conversely, news content impacts impressions of TV newscasters, such that those who see negative news are likely to perceive the newscaster less favorably than those who watch positive news.

Each of these findings has implications for television viewers and TV news organizations. Understanding the role that television news plays in affecting our moods is especially relevant today, with the growing number of news channels offering continuous coverage of breaking stories worldwide. Audiences and news

organizations, alike, may find the information presented in this study useful in making

more informed decisions about appropriate viewing and responsible programming.

Appendix A

Consent Form

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Western Michigan University, Department of Psychology
Title: Affective Responses to Television Newscasts: Have You Heard the News?
Principle Investigator: Lester Wright, Jr., Ph.D.
Student Investigator: Jessica Purtan Harrell, M.A.

I have been invited to participate in a research project entitled "Affective Responses to Television Newscasts: Have You Heard the News?" This research is intended to study viewer responses to television newscasts. This project is Jessica Harrell's dissertation project.

I will be asked to attend a one-hour, small group session with Jessica Harrell in a private room in the Bingham Center. This session will begin with me completing several questionnaires that measure various aspects of my mood, such as anxiety, depression, stress, and anger, along with more general positive and negative feelings. I will also provide general information about myself, such as my age, level of education, and employment status, in addition to information about my television viewing habits. I will then watch a television newscast that is approximately 20 minutes in length. Following the newscast, I will complete the same mood measures that I filled out before watching the videotape, and I will answer questions about my impressions of the newscaster. These activities are expected to take approximately one hour. At the end of the testing session, I will be asked to refrain from watching and/or listening to the news for the next 24 hours. I will also complete each mood measure again, on four more occasions, at approximately four-hour intervals following the testing session. Upon completion, these questionnaires will be returned by mail to Jessica Harrell in the pre-stamped, pre-addressed envelope provided to me today. My total time of participation in this project is expected to be 24 hours.

As in all research, there may be unforeseen risks to the participant. If an accidental injury occurs, appropriate emergency measures will be taken; however, no compensation or treatment will be made available to me except as otherwise specified in this consent form. One potential risk of my participation in this project is that I may become upset by the content of the television newscast and/or by sharing information about my moods; however, Jessica Harrell is prepared to provide crisis counseling should I become significantly upset, and she is prepared to make a referral if I need further counseling about this topic. I will be responsible for the cost of therapy if I choose to pursue it.

I may benefit from participation in this project by learning about how watching the news affects my moods. Although this benefit may be only a modest one, others may benefit from the knowledge gained from this research, regarding how television news viewing affects our moods. In addition, I will receive monetary compensation totaling $15.00 for my participation. Five dollars will be given to me at the end of this testing session, and an additional ten dollars will be sent to me through the mail after the student investigator receives my follow-up questionnaires.

All of the information collected from me is confidential. That means that my name will not appear on any papers on which this information is recorded. The forms will all be coded, and Jessica Harrell will keep a separate master list with the names of participants and the corresponding code numbers. Once the data are collected and analyzed, the master list will be

destroyed. All other forms will be retained for three years in a locked file cabinet in the principle investigator's laboratory.

I may refuse to participate or quit at any time during the study without prejudice or penalty. If I have any questions or concerns about this study, I may contact either Dr. Lester Wright at (616) 387-4472 or Jessica Harrell at (248) 888-9905. I may also contact the Western Michigan University's Chair of Human Subjects Institutional Review Board at (616) 387-8293 or the Vice President for Research at WMU at (616) 387-8298 with any concerns that I have.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner of both pages of this document. Subjects should not sign this document if the corner does not have a stamped date and signature.

My signature below indicates that I have read and/or had explained to me the purpose and requirements of the study and that I agree to participate.

_____   _____
Signature   Date

Consent obtained by: _____   _____
(initials of researcher)   Date

Appendix B

Human Subjects Institutional Review Board
Letter of Approval

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WESTERN MICHIGAN UNIVERSITY

Date: 15 December 1999

To: Lester Wright, Principal Investigator
        Jessica Purtan-Harrell, Student Investigator for dissertation

From: Sylvia Culp, Chair

Re: HSIRB Project Number 99-11-01

This letter will serve as confirmation that your research project entitled "Affective Responses to Television Newscasts: Have You Heard the News?" has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: 15 December 2000

Appendix C

Measures

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Demographic Information, TV Viewing Habits

Age

_____ years

Race/Ethnic background

_____ Caucasian
_____ African-American
_____ Asian-American
_____ Alaskan Native
_____ American Indian
_____ Hispanic
_____ International/Non-US Resident
_____ Multiracial
_____ Pacific Islander
_____ Other

Education Level

_____ Less than high school
_____ High school
_____ Some college, Associate, Technical degree
_____ B.A. or B.S. degree
_____ Some graduate work
_____ Advanced degree

Employment

_____ Employed full-time
_____ Employed part-time
_____ Unemployed
_____ Student

Income Level

_____ Less than $25,000
_____ $25,000-$50,000
_____ $50,000-$75,000
_____ $75,000-$100,000
_____ More than $100,000

Marital Status

_____ Single
_____ Married
_____ Divorced/Separated
_____ Living with significant other

Have you ever been treated for problems with depression?	**Yes**	**No**
Are you currently being treated for problems with depression?	**Yes**	**No**
Have you ever been treated for problems with anxiety?	**Yes**	**No**
Are you currently being treated for problems with anxiety?	**Yes**	**No**
Have you ever been treated for problems with anger?	**Yes**	**No**
Are you currently being treated for problems with anger?	**Yes**	**No**

Television Viewing Habits

For the following questions, please use the following scale:

A = 0-2 hours
B = 2-4 hours
C = 4-6 hours
D = 6-8 hours
E = 8-10 hours

On average, I watch _____ hours of television per day.

On average, I watch _____ hours of local news (Channels 2, 4, 7) per week.

On average, I watch _____ hours of national news (e.g. CBS, NBC, ABC) per week.

On average, I watch _____ hours of cable news (e.g. CNN, MSNBC, CBC, FOX) per week.

On average, I watch _____ hours of news/entertainment programming (e.g. 60 Minutes, Dateline, 20/20) per week.

Do you typically watch local morning news?   **Yes**   **No**

Newcaster Impressions Questionnaire (NIQ)

"Compared to other newscasters I have seen, this newscaster was..."

1	2	3	4	5	6	7	8	9	10
Most Friendly				Equally as Friendly					Least Friendly

1	2	3	4	5	6	7	8	9	10
Most Credible				Equally as Credible					Least Credible

1	2	3	4	5	6	7	8	9	10
Most Professional				Equally as Professional					Least Professional

1	2	3	4	5	6	7	8	9	10
Most Qualified				Equally as Qualified					Least Qualified

1	2	3	4	5	6	7	8	9	10
Most Trustworthy				Equally as Trustworthy					Least Trustworthy

1	2	3	4	5	6	7	8	9	10
Most Believable				Equally Believable					Least Believable

1	2	3	4	5	6	7	8	9	10
Most Competent				Equally as Competent					Least Competent

1	2	3	4	5	6	7	8	9	10
Most Sympathetic				Equally Sympathetic					Least Sympathetic

1	2	3	4	5	6	7	8	9	10
Most Nervous				Equally as Nervous					Least Nervous

1	2	3	4	5	6	7	8	9	10
Most Compassionate				Equally as Compassionate					Least Compassionate

"Compared to other newscasters I have seen, this newscaster was..."

1	2	3	4	5	6	7	8	9	10
Most				Equally					Least
Attractive				as Attractive					Attractive

"Compared to other newscasters I have seen, this newscaster's <u>voice</u> was..."

1	2	3	4	5	6	7	8	9	10
Most				Equally					Least
Pleasant				as Pleasant					Pleasant

"Compared to other newscasters I have seen, this newscaster's <u>delivery of the news</u> was..."

1	2	3	4	5	6	7	8	9	10
Best				About Equal					Worst

Have you seen this newscaster before today?   Yes   No

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